

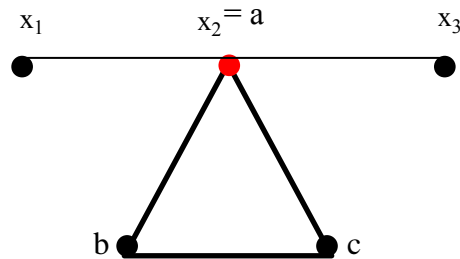
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## LAMPIRAN

Proses menghitung diferensial graf Amal  $(P_n; C_3, \frac{X_{n+1}}{2}; a)$ .

- Untuk  $n = 3 \rightarrow \text{Amal}(P_3; C_3, x_2; a)$ .

Gambar Graf Amal  $(P_3; C_3, x_2; a)$ .

Diketahui:

$$V(\text{Amal}(P_3; C_3, x_2; a)) = \{x_1, x_2, x_3, b, c\}.$$

Pilih:

$$X_1 = \{x_2\}, X_2 = \{b\}, X_3 = \{x_1\}, X_4 = \{x_2, b\}, X_5 = \{x_1, x_2\}, X_6 = \{x_1, b\}, X_7 = \{x_1, x_3\}, X_8 = \{b, c\},$$

$$X_9 = \{x_1, x_2, b\}, X_{10} = \{x_1, x_2, x_3\}, X_{11} = \{x_1, x_3, b\}, X_{12} = \{x_2, b, c\}, X_{13} = \{x_1, b, c\},$$

$$X_{14} = \{x_1, x_2, x_3, b\}, X_{15} = \{x_1, x_2, b, c\}, X_{16} = \{x_1, x_3, b, c\}, X_{17} = \{x_1, x_2, x_3, b, c\}.$$

Maka tetangga dari masing-masing titik  $x_i$  untuk  $i = 1, 2, \dots, 17$  adalah :

$$B(X_1) = \{x_1, x_3, b, c\}, B(X_2) = \{x_2, c\}, B(X_3) = \{x_2\}, B(X_4) = \{x_1, x_3, c\}, B(X_5) = \{x_3, b, c\},$$

$$B(X_6) = \{x_2, c\}, B(X_7) = \{x_2\}, B(X_8) = \{x_2\}, B(X_9) = \{x_3, c\}, B(X_{10}) = \{b, c\}, B(X_{11}) = \{x_2, c\},$$

$$B(X_{12}) = \{x_1, x_3\}, B(X_{13}) = \{x_2\}, B(X_{14}) = \{c\}, B(X_{15}) = \{x_3\}, B(X_{16}) = \{x_2\}, B(X_{17}) = 0.$$

Sehingga diperoleh diferensial himpunan dari masing-masing titik  $X_i$  untuk  $i = 1, 2, \dots,$

17 adalah :

$$\partial(X_1) = |B(X_1)| - |X_1| = 4 - 1 = 3, \quad \partial(X_2) = |B(X_2)| - |X_2| = 2 - 1 = 1,$$

$$\partial(X_3) = |B(X_3)| - |X_3| = 1 - 1 = 0, \quad \partial(X_4) = |B(X_4)| - |X_4| = 3 - 2 = 1,$$

$$\partial(X_5) = |B(X_5)| - |X_5| = 3 - 2 = 1, \quad \partial(X_6) = |B(X_6)| - |X_6| = 2 - 2 = 0,$$

$$\partial(X_7) = |B(X_7)| - |X_7| = 1 - 2 = -1, \quad \partial(X_8) = |B(X_8)| - |X_8| = 1 - 2 = -1,$$

$$\partial(X_9) = |B(X_9)| - |X_9| = 2 - 3 = -1, \quad \partial(X_{10}) = |B(X_{10})| - |X_{10}| = 2 - 3 = -1,$$

$$\partial(X_{11}) = |B(X_{11})| - |X_{11}| = 2 - 3 = -1, \quad \partial(X_{12}) = |B(X_{12})| - |X_{12}| = 2 - 3 = -1,$$

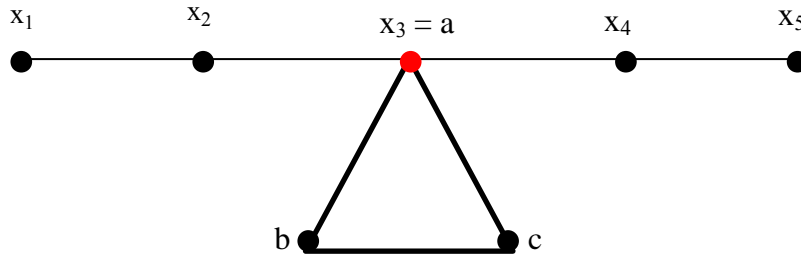
$$\partial(X_{13}) = |B(X_{13})| - |X_{13}| = 1 - 3 = -2, \quad \partial(X_{14}) = |B(X_{14})| - |X_{14}| = 1 - 4 = -3,$$

$$\partial(X_{15}) = |B(X_{15})| - |X_{15}| = 1 - 4 = -3, \quad \partial(X_{16}) = |B(X_{16})| - |X_{16}| = 1 - 4 = -3,$$

$$\partial(X_{17}) = |B(X_{17})| - |X_{17}| = 0 - 5 = -5.$$

Maka diferensial dari graf Amal  $(P_3;C_3, x_2;a)= \max \{3, 1, 0, -1, -2, -3, -5\} = 3$ .

- Untuk  $n = 5 \rightarrow \text{Amal}(P_5;C_3, x_3;a)$ .



Gambar Graf Amal  $(P_5;C_3, x_3;a)$ .

Diketahui :

$$V(\text{Amal}(P_5;C_3, x_3;a)) = \{x_1, x_2, x_3, x_4, x_5, b, c\}.$$

Pilih :

$$\begin{aligned} X_1 &= \{x_1\}, X_2 = \{x_3\}, X_3 = \{b\}, X_4 = \{x_1, x_5\}, X_5 = \{x_1, b\}, X_6 = \{x_1, x_2\}, X_7 = \{x_1, x_3\}, \\ X_8 &= \{x_2, x_3\}, X_9 = \{x_2, x_4\}, X_{10} = \{b, c\}, X_{11} = \{x_1, x_3, x_5\}, X_{12} = \{x_1, x_2, x_5\}, \\ X_{13} &= \{x_1, x_5, b\}, X_{14} = \{x_1, x_2, x_3\}, X_{15} = \{x_1, x_3, b\}, X_{16} = \{x_2, x_3, x_4\}, X_{17} = \{x_3, b, c\}, \\ X_{18} &= \{x_2, x_4, b\}, X_{19} = \{x_2, b, c\}, X_{20} = \{x_1, x_2, b\}, X_{21} = \{x_1, x_4, b\}, X_{22} = \{x_1, x_2, x_3, x_5\}, \\ X_{23} &= \{x_1, x_2, x_3, x_4\}, X_{24} = \{x_1, x_2, x_3, b\}, X_{25} = \{x_2, x_3, x_4, b\}, X_{26} = \{x_2, x_3, b, c\}, \\ X_{27} &= \{x_2, x_4, b, c\}, X_{28} = \{x_1, x_2, x_4, x_5\}, X_{29} = \{x_1, x_5, b, c\}, X_{30} = \{x_1, x_2, x_4, b\}, \\ X_{31} &= \{x_1, x_2, b, c\}, X_{32} = \{x_1, x_2, x_4, b, c\}, X_{33} = \{x_2, x_3, x_4, b, c\}, X_{34} = \{x_1, x_2, x_3, b, c\}, \\ X_{35} &= \{x_1, x_3, x_4, b, c\}, X_{36} = \{x_1, x_2, x_3, x_4, x_5\}, X_{37} = \{x_1, x_2, x_4, x_5, b\}, \\ X_{38} &= \{x_1, x_2, x_4, x_5, b, c\}, X_{39} = \{x_1, x_2, x_3, x_4, b, c\}, X_{40} = \{x_1, x_2, x_3, x_4, x_5, b\}, \\ X_{41} &= \{x_1, x_2, x_3, x_4, x_5, b, c\}. \end{aligned}$$

Maka tetangga dari masing-masing titik  $X_i$  untuk  $i = 1, 2, \dots, 41$  adalah :

$$\begin{aligned} B(X_1) &= \{x_2\}, B(X_2) = \{x_2, x_4, b, c\}, B(X_3) = \{x_3, c\}, B(X_4) = \{x_2, x_4\}, B(X_5) = \{x_2, x_3, c\}, \\ B(X_6) &= \{x_3\}, B(X_7) = \{x_2, x_4, b, c\}, B(X_8) = \{x_1, x_4, b, c\}, B(X_9) = \{x_1, x_3, x_5\}, \\ B(X_{10}) &= \{x_3\}, B(X_{11}) = \{x_2, x_4, b, c\}, B(X_{12}) = \{x_3, x_4\}, B(X_{13}) = \{x_2, x_3, x_4, c\}, \\ B(X_{14}) &= \{x_4, b, c\}, B(X_{15}) = \{x_2, x_4, c\}, B(X_{16}) = \{x_1, x_5, b, c\}, B(X_{17}) = \{x_2, x_4\}, \\ B(X_{18}) &= \{x_1, x_3, x_5, c\}, B(X_{19}) = \{x_1, x_3\}, B(X_{20}) = \{x_3, c\}, B(X_{21}) = \{x_2, x_3, x_5, c\}, \\ B(X_{22}) &= \{x_4, b, c\}, B(X_{23}) = \{x_5, b, c\}, B(X_{24}) = \{x_4, c\}, B(X_{25}) = \{x_1, x_5, c\}, \\ B(X_{26}) &= \{x_1, x_4\}, B(X_{27}) = \{x_1, x_3, x_5\}, B(X_{28}) = \{x_3\}, B(X_{29}) = \{x_2, x_3, x_4\}, \\ B(X_{30}) &= \{x_3, x_5, c\}, B(X_{31}) = \{x_3\}, B(X_{32}) = \{x_3, x_5\}, B(X_{33}) = \{x_1, x_5\}, B(X_{34}) = \{x_4\}, \\ B(X_{35}) &= \{x_2, x_5\}, B(X_{36}) = \{b, c\}, B(X_{37}) = \{x_3, c\}, B(X_{38}) = \{x_3\}, B(X_{39}) = \{x_5\}, \end{aligned}$$

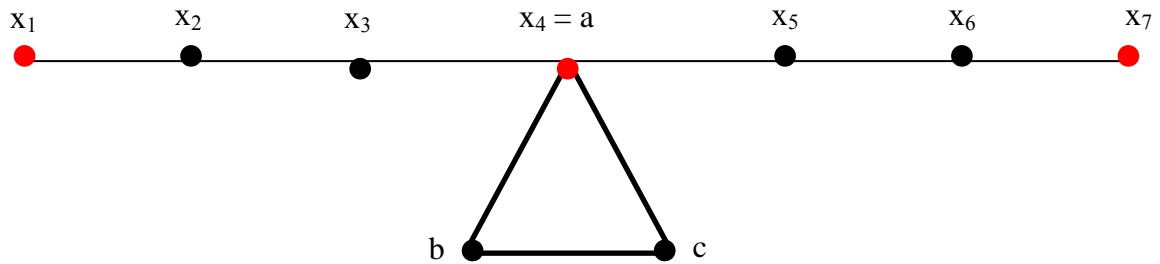
$$B(X_{40}) = \{c\}, B(X_{41}) = 0.$$

Sehingga diperoleh diferensial himpunan dari masing-masing titik  $x_i$  untuk  $i = 1, 2, \dots, 41$  adalah :

$$\begin{aligned} \partial(X_1) &= |B(X_1)| - |X_1| = 1 - 1 = 0, & \partial(X_2) &= |B(X_2)| - |X_2| = 4 - 1 = 3, \\ \partial(X_3) &= |B(X_3)| - |X_3| = 2 - 1 = 1, & \partial(X_4) &= |B(X_4)| - |X_4| = 2 - 2 = 0, \\ \partial(X_5) &= |B(X_5)| - |X_5| = 3 - 2 = 1, & \partial(X_6) &= |B(X_6)| - |X_6| = 1 - 2 = -1, \\ \partial(X_7) &= |B(X_7)| - |X_7| = 1 - 2 = -1, & \partial(X_8) &= |B(X_8)| - |X_8| = 4 - 2 = 2, \\ \partial(X_9) &= |B(X_9)| - |X_9| = 3 - 2 = 1, & \partial(X_{10}) &= |B(X_{10})| - |X_{10}| = 1 - 2 = -1, \\ \partial(X_{11}) &= |B(X_{11})| - |X_{11}| = 4 - 3 = 1, & \partial(X_{12}) &= |B(X_{12})| - |X_{12}| = 2 - 3 = -1, \\ \partial(X_{13}) &= |B(X_{13})| - |X_{13}| = 4 - 3 = 1, & \partial(X_{14}) &= |B(X_{14})| - |X_{14}| = 3 - 3 = 0, \\ \partial(X_{15}) &= |B(X_{15})| - |X_{15}| = 3 - 3 = 0, & \partial(X_{16}) &= |B(X_{16})| - |X_{16}| = 4 - 3 = 1, \\ \partial(X_{17}) &= |B(X_{17})| - |X_{17}| = 2 - 3 = -1, & \partial(X_{18}) &= |B(X_{18})| - |X_{18}| = 4 - 3 = 1, \\ \partial(X_{19}) &= |B(X_{19})| - |X_{19}| = 2 - 3 = -1, & \partial(X_{20}) &= |B(X_{20})| - |X_{20}| = 2 - 3 = -1, \\ \partial(X_{21}) &= |B(X_{21})| - |X_{21}| = 4 - 3 = 1, & \partial(X_{22}) &= |B(X_{22})| - |X_{22}| = 3 - 4 = -1, \\ \partial(X_{23}) &= |B(X_{23})| - |X_{23}| = 3 - 4 = -1, & \partial(X_{24}) &= |B(X_{24})| - |X_{24}| = 2 - 4 = -2, \\ \partial(X_{25}) &= |B(X_{25})| - |X_{25}| = 3 - 4 = -1, & \partial(X_{26}) &= |B(X_{26})| - |X_{26}| = 2 - 4 = -2, \\ \partial(X_{27}) &= |B(X_{27})| - |X_{27}| = 3 - 4 = -1, & \partial(X_{28}) &= |B(X_{28})| - |X_{28}| = 1 - 4 = -3, \\ \partial(X_{29}) &= |B(X_{29})| - |X_{29}| = 3 - 4 = -1, & \partial(X_{30}) &= |B(X_{30})| - |X_{30}| = 3 - 4 = -1, \\ \partial(X_{31}) &= |B(X_{31})| - |X_{31}| = 1 - 4 = -3, & \partial(X_{32}) &= |B(X_{32})| - |X_{32}| = 2 - 5 = -3, \\ \partial(X_{33}) &= |B(X_{33})| - |X_{33}| = 2 - 5 = -3, & \partial(X_{34}) &= |B(X_{34})| - |X_{34}| = 1 - 5 = -4, \\ \partial(X_{35}) &= |B(X_{35})| - |X_{35}| = 2 - 5 = -3, & \partial(X_{36}) &= |B(X_{36})| - |X_{36}| = 2 - 5 = -3, \\ \partial(X_{37}) &= |B(X_{37})| - |X_{37}| = 2 - 5 = -3, & \partial(X_{38}) &= |B(X_{38})| - |X_{38}| = 1 - 6 = -5, \\ \partial(X_{39}) &= |B(X_{39})| - |X_{39}| = 1 - 6 = -5, & \partial(X_{40}) &= |B(X_{40})| - |X_{40}| = 1 - 6 = -5, \\ \partial(X_{41}) &= |B(X_{41})| - |X_{41}| = 0 - 7 = -7. \end{aligned}$$

Maka diferensial dari graf  $(P_5; C_3, x_3; a) = \max \{3, 2, 1, 0, -1, -2, -3, -4, -5, -7\} = 3$ .

- Untuk  $n = 7 \rightarrow \text{Amal}(P_7; C_3, x_4; a)$ .



Gambar Graf Amal  $(P_7; C_3, x_4; a)$ .

Diketahui :

$$V(\text{Amal } (P_7; C_3, x_4; a)) = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, b, c\}.$$

Pilih :

- $X_1 = \{x_1\}, X_2 = \{x_2\}, X_3 = \{x_4\}, X_4 = \{x_1, x_7\}, X_5 = \{x_1, x_2\}, X_6 = \{x_1, b\}, X_7 = \{x_1, x_4\},$
- $X_8 = \{x_2, x_4\}, X_9 = \{x_4, b\}, X_{10} = \{x_2, x_6\}, X_{11} = \{x_2, x_3\}, X_{12} = \{b, c\}, X_{13} = \{x_1, x_4, x_7\},$
- $X_{14} = \{x_1, x_2, x_7\}, X_{15} = \{x_1, x_3, x_7\}, X_{16} = \{x_1, x_7, b\}, X_{17} = \{x_1, x_2, x_4\}, X_{18} = \{x_2, x_4, x_6\},$
- $X_{19} = \{x_2, x_4, b\}, X_{20} = \{x_2, x_3, x_5\}, X_{21} = \{x_2, x_3, x_6\}, X_{22} = \{x_2, x_6, b\}, X_{23} = \{x_1, x_2, x_3\},$
- $X_{24} = \{x_1, x_2, x_5\}, X_{25} = \{x_1, x_6, b\}, X_{26} = \{x_1, x_2, x_4, x_7\}, X_{27} = \{x_1, x_2, x_3, x_4\},$
- $X_{28} = \{x_1, x_2, x_4, x_5\}, X_{29} = \{x_1, x_2, x_4, x_6\}, X_{30} = \{x_2, x_3, x_4, x_5\}, X_{31} = \{x_2, x_3, x_4, x_6\},$
- $X_{32} = \{x_2, x_4, b, c\}, X_{33} = \{x_2, x_3, x_5, x_6\}, X_{34} = \{x_2, x_3, b, c\}, X_{35} = \{x_2, x_6, b, c\},$
- $X_{36} = \{x_1, x_2, x_3, x_7\}, X_{37} = \{x_1, x_3, x_5, x_7\}, X_{38} = \{x_1, x_3, x_7, c\}, X_{39} = \{x_1, x_2, x_3, x_5\},$
- $X_{40} = \{x_1, x_3, x_6, c\}, X_{41} = \{x_1, x_2, x_3, x_5, x_6\}, X_{42} = \{x_1, x_2, x_3, b, c\}, X_{43} = \{x_1, x_3, x_5, b, c\},$
- $X_{44} = \{x_1, x_3, x_6, b, c\}, X_{45} = \{x_2, x_3, x_4, x_5, x_6\}, X_{46} = \{x_2, x_3, x_4, b, c\},$
- $X_{47} = \{x_1, x_3, x_4, x_6, b\}, X_{48} = \{x_1, x_3, x_4, x_5, x_7\}, X_{49} = \{x_1, x_3, x_5, x_7, b\},$
- $X_{50} = \{x_2, x_3, x_5, x_6, b\}, X_{51} = \{x_2, x_3, x_5, b, c\}, X_{52} = \{x_1, x_2, x_3, x_5, x_6, b\},$
- $X_{53} = \{x_1, x_2, x_3, x_5, x_6, x_7\}, X_{54} = \{x_2, x_3, x_4, x_5, x_6, b\}, X_{55} = \{x_1, x_2, x_3, x_4, x_5, x_6\},$
- $X_{56} = \{x_1, x_2, x_3, x_5, x_6, b, c\}, X_{57} = \{x_2, x_3, x_4, x_5, x_6, b, c\}, X_{58} = \{x_1, x_2, x_3, x_5, x_6, x_7, b\},$
- $X_{59} = \{x_1, x_2, x_3, x_4, x_5, b, c\}, X_{60} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, b\},$
- $X_{61} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, b, c\}.$

Maka tetangga dari masing-masing titik  $x_i$  untuk  $i = 1, 2, \dots, 61$  adalah :

- $B(X_1) = \{x_2\}, B(x_2) = \{x_1, x_3\}, B(X_3) = \{x_3, x_5, b, c\}, B(X_4) = \{x_2, x_6\}, B(X_5) = \{x_3\},$
- $B(X_6) = \{x_2, x_4, c\}, B(X_7) = \{x_2, x_3, x_5, b, c\}, B(X_8) = \{x_1, x_3, x_5, b, c\}, B(X_9) = \{x_3, x_5, c\},$
- $B(X_{10}) = \{x_1, x_3, x_5, x_7\}, B(X_{11}) = \{x_1, x_4\}, B(X_{12}) = \{x_4\}, B(X_{13}) = \{x_2, x_3, x_5, x_6, b, c\},$

$$\begin{aligned}
 B(X_{14}) &= \{x_3, x_6\}, B(X_{15}) = \{x_2, x_4, x_6\}, B(X_{16}) = \{x_2, x_4, x_6, c\}, B(X_{17}) = \{x_3, x_5, b, c\}, \\
 B(X_{18}) &= \{x_1, x_3, x_5, x_7, b, c\}, B(X_{19}) = \{x_1, x_3, x_5, b\}, B(X_{20}) = \{x_1, x_4, x_6\}, \\
 B(X_{21}) &= \{x_1, x_4, x_5, x_7\}, B(X_{22}) = \{x_1, x_3, x_4, x_5, x_7, b\}, B(X_{23}) = \{x_4\}, \\
 B(X_{24}) &= \{x_3, x_4, x_6\}, B(X_{25}) = \{x_2, x_4, x_5, x_7, c\}, B(X_{26}) = \{x_3, x_5, x_6, b, c\}, \\
 B(X_{27}) &= \{x_5, b, c\}, B(X_{28}) = \{x_3, x_6, b, c\}, B(X_{29}) = \{x_3, x_5, x_7, b, c\}, B(X_{30}) = \{x_1, x_6, b, c\}, \\
 B(X_{31}) &= \{x_1, x_5, x_7, b, c\}, B(X_{32}) = \{x_1, x_3, x_5\}, B(X_{33}) = \{x_1, x_4, x_7\}, B(X_{34}) = \{x_1, x_4\}, \\
 B(X_{35}) &= \{x_1, x_3, x_4, x_5, x_7\}, B(X_{36}) = \{x_4, x_6\}, B(X_{37}) = \{x_2, x_4, x_6\}, \\
 B(X_{38}) &= \{x_2, x_4, x_6, b\}, B(X_{39}) = \{x_4, x_6\}, B(X_{40}) = \{x_2, x_4, x_5, x_7, b\}, B(X_{41}) = \{x_4, x_7\}, \\
 B(X_{42}) &= \{x_4\}, B(X_{43}) = \{x_2, x_4, x_6\}, B(X_{44}) = \{x_2, x_4, x_5, x_7\}, B(X_{45}) = \{x_1, x_7, b, c\}, \\
 B(X_{46}) &= \{x_1, x_5\}, B(X_{47}) = \{x_2, x_5, x_7, c\}, B(X_{48}) = \{x_2, x_6, b, c\}, B(X_{49}) = \{x_2, x_4, x_6, c\}, \\
 B(X_{50}) &= \{x_1, x_4, x_7, c\}, B(X_{51}) = \{x_1, x_4, x_7\}, B(X_{52}) = \{x_4, x_7, c\}, B(X_{53}) = \{x_4\}, \\
 B(X_{54}) &= \{x_1, x_7, c\}, B(X_{55}) = \{x_7, b, c\}, B(X_{56}) = \{x_4, x_7\}, B(X_{57}) = \{x_1, x_7\}, \\
 B(X_{58}) &= \{x_4, c\}, B(X_{59}) = \{x_6\}, B(X_{60}) = \{c\}, B(X_{61}) = 0.
 \end{aligned}$$

Sehingga diperoleh diferensial himpunan dari masing-masing titik  $x_i$  untuk  $i = 1, 2, \dots$ ,

61 adalah :

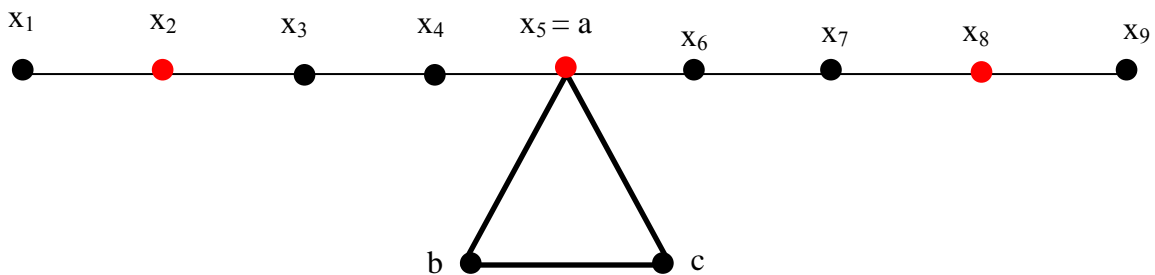
$$\begin{aligned}
 \partial(X_1) &= |B(X_1)| - |X_1| = 1 - 1 = 0, & \partial(X_2) &= |B(X_2)| - |X_2| = 2 - 1 = 1, \\
 \partial(X_3) &= |B(X_3)| - |X_3| = 4 - 1 = 3, & \partial(X_4) &= |B(X_4)| - |X_4| = 2 - 2 = 0, \\
 \partial(X_5) &= |B(X_5)| - |X_5| = 1 - 2 = -1, & \partial(X_6) &= |B(X_6)| - |X_6| = 3 - 2 = 1, \\
 \partial(X_7) &= |B(X_7)| - |X_7| = 5 - 2 = 3, & \partial(X_8) &= |B(X_8)| - |X_8| = 5 - 2 = 3, \\
 \partial(X_9) &= |B(X_9)| - |X_9| = 3 - 2 = 1, & \partial(X_{10}) &= |B(X_{10})| - |X_{10}| = 4 - 2 = 2, \\
 \partial(X_{11}) &= |B(X_{11})| - |X_{11}| = 2 - 2 = 0, & \partial(X_{12}) &= |B(X_{12})| - |X_{12}| = 1 - 2 = -1, \\
 \partial(X_{13}) &= |B(X_{13})| - |X_{13}| = 6 - 3 = 3, & \partial(X_{14}) &= |B(X_{14})| - |X_{14}| = 2 - 3 = -1, \\
 \partial(X_{15}) &= |B(X_{15})| - |X_{15}| = 3 - 3 = 0, & \partial(X_{16}) &= |B(X_{16})| - |X_{16}| = 4 - 3 = 1, \\
 \partial(X_{17}) &= |B(X_{17})| - |X_{17}| = 4 - 3 = 1, & \partial(X_{18}) &= |B(X_{18})| - |X_{18}| = 6 - 3 = 3, \\
 \partial(X_{19}) &= |B(X_{19})| - |X_{19}| = 4 - 3 = 1, & \partial(X_{20}) &= |B(X_{20})| - |X_{20}| = 3 - 3 = 0, \\
 \partial(X_{21}) &= |B(X_{21})| - |X_{21}| = 4 - 3 = 1, & \partial(X_{22}) &= |B(X_{22})| - |X_{22}| = 6 - 3 = 3, \\
 \partial(X_{23}) &= |B(X_{23})| - |X_{23}| = 1 - 3 = -2, & \partial(X_{24}) &= |B(X_{24})| - |X_{24}| = 3 - 3 = 0, \\
 \partial(X_{25}) &= |B(X_{25})| - |X_{25}| = 5 - 3 = 2, & \partial(X_{26}) &= |B(X_{26})| - |X_{26}| = 5 - 4 = 1, \\
 \partial(X_{27}) &= |B(X_{27})| - |X_{27}| = 3 - 4 = -1, & \partial(X_{28}) &= |B(X_{28})| - |X_{28}| = 4 - 4 = 0, \\
 \partial(X_{29}) &= |B(X_{29})| - |X_{29}| = 5 - 4 = 1, & \partial(X_{30}) &= |B(X_{30})| - |X_{30}| = 4 - 4 = 0, \\
 \partial(X_{31}) &= |B(X_{31})| - |X_{31}| = 5 - 4 = 1, & \partial(X_{32}) &= |B(X_{32})| - |X_{32}| = 3 - 4 = -1,
 \end{aligned}$$

$$\begin{aligned}
 \partial (X_{33}) &= |B(X_{33})| - |X_{33}| = 3 - 4 = -1, & \partial (X_{34}) &= |B(X_{34})| - |X_{34}| = 2 - 4 = -2, \\
 \partial (X_{35}) &= |B(X_{35})| - |X_{35}| = 5 - 4 = 1, & \partial (X_{36}) &= |B(X_{36})| - |X_{36}| = 2 - 4 = -2, \\
 \partial (X_{37}) &= |B(X_{37})| - |X_{37}| = 3 - 4 = -1, & \partial (X_{38}) &= |B(X_{38})| - |X_{38}| = 4 - 4 = 0, \\
 \partial (X_{39}) &= |B(X_{39})| - |X_{39}| = 2 - 4 = -2, & \partial (X_{40}) &= |B(X_{40})| - |X_{40}| = 5 - 4 = 1, \\
 \partial (X_{41}) &= |B(X_{41})| - |X_{41}| = 2 - 5 = -3, & \partial (X_{42}) &= |B(X_{42})| - |X_{42}| = 1 - 5 = -4, \\
 \partial (X_{43}) &= |B(X_{43})| - |X_{43}| = 3 - 5 = -2, & \partial (X_{44}) &= |B(X_{44})| - |X_{44}| = 4 - 5 = -1, \\
 \partial (X_{45}) &= |B(X_{45})| - |X_{45}| = 4 - 5 = -1, & \partial (X_{46}) &= |B(X_{46})| - |X_{46}| = 2 - 5 = -3, \\
 \partial (X_{47}) &= |B(X_{47})| - |X_{47}| = 4 - 5 = -1, & \partial (X_{48}) &= |B(X_{48})| - |X_{48}| = 4 - 5 = -1, \\
 \partial (X_{49}) &= |B(X_{49})| - |X_{49}| = 4 - 5 = -1, & \partial (X_{50}) &= |B(X_{50})| - |X_{50}| = 4 - 5 = -1, \\
 \partial (X_{51}) &= |B(X_{51})| - |X_{51}| = 3 - 6 = -3, & \partial (X_{52}) &= |B(X_{52})| - |X_{52}| = 3 - 6 = -3, \\
 \partial (X_{53}) &= |B(X_{53})| - |X_{53}| = 1 - 6 = -5, & \partial (X_{54}) &= |B(X_{54})| - |X_{54}| = 3 - 6 = -3, \\
 \partial (X_{55}) &= |B(X_{55})| - |X_{55}| = 3 - 6 = -3, & \partial (X_{56}) &= |B(X_{56})| - |X_{56}| = 2 - 7 = -5, \\
 \partial (X_{57}) &= |B(X_{57})| - |X_{57}| = 2 - 7 = -5, & \partial (X_{58}) &= |B(X_{58})| - |X_{58}| = 2 - 7 = -5, \\
 \partial (X_{59}) &= |B(X_{59})| - |X_{59}| = 1 - 7 = -6, & \partial (X_{60}) &= |B(X_{60})| - |X_{60}| = 1 - 8 = -7, \\
 \partial (X_{61}) &= |B(X_{61})| - |X_{61}| = 0 - 9 = -9.
 \end{aligned}$$

Maka diferensial dari graf

$$\text{Amal } (P_7; C_3, x_4; a) = \max \{3, 2, 1, 0, -1, -2, -3, -4, -5, -6, -7, -9\} = 3.$$

- Untuk  $n = 9 \rightarrow \text{Amal } (P_9; C_3, x_5; a)$ .



Gambar Graf Amal  $(P_9; C_3, x_5; a)$ .

Diketahui :

$$V(\text{Amal } (P_9; C_3, x_5; a)) = \{ x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, b, c \}.$$

Pilih :

$$\begin{aligned}
 X_1 &= \{x_1\}, X_2 = \{x_5\}, X_3 = \{x_7\}, X_4 = \{x_1, x_9\}, X_5 = \{x_1, x_2\}, X_6 = \{x_1, x_3\}, X_7 = \{x_1, x_4\}, \\
 X_8 &= \{x_1, x_5\}, X_9 = \{x_2, x_5\}, X_{10} = \{x_3, x_5\}, X_{11} = \{x_4, x_5\}, X_{12} = \{x_2, x_3\}, X_{13} = \{x_2, x_4\},
 \end{aligned}$$

$$\begin{aligned}
 X_{14} &= \{x_2, x_6\}, X_{15} = \{x_1, x_5, x_9\}, X_{16} = \{x_1, x_2, x_9\}, X_{17} = \{x_1, x_3, x_9\}, X_{18} = \{x_1, x_4, x_9\}, \\
 X_{19} &= \{x_1, x_2, x_5\}, X_{20} = \{x_2, x_3, x_5\}, X_{21} = \{x_2, x_5, x_8\}, X_{22} = \{x_2, x_3, x_4\}, X_{23} = \{x_2, x_3, x_6\}, \\
 X_{24} &= \{x_2, x_7, b\}, X_{25} = \{x_1, x_2, x_3\}, X_{26} = \{x_1, x_2, x_4\}, X_{27} = \{x_1, x_3, x_6\}, X_{28} = \{x_1, x_4, x_7\}, \\
 X_{29} &= \{x_1, x_2, x_5, x_9\}, X_{30} = \{x_1, x_2, x_3, x_5\}, X_{31} = \{x_1, x_3, x_5, x_6\}, X_{32} = \{x_2, x_3, x_4, x_5\}, \\
 X_{33} &= \{x_2, x_4, x_5, x_8\}, X_{34} = \{x_2, x_3, x_4, x_6\}, X_{35} = \{x_2, x_4, x_6, x_8\}, X_{36} = \{x_1, x_3, x_6, x_9\}, \\
 X_{37} &= \{x_1, x_3, x_7, b\}, X_{38} = \{x_1, x_3, x_6, x_8, b\}, X_{39} = \{x_2, x_4, x_5, x_6, x_8\}, X_{40} = \{x_1, x_3, x_5, x_7, c\}, \\
 X_{41} &= \{x_1, x_3, x_5, x_7, x_9\}, X_{42} = \{x_1, x_3, x_6, x_9, b\}, X_{43} = \{x_2, x_4, x_6, x_8, b\}, \\
 X_{44} &= \{x_2, x_3, x_7, x_8, b, c\}, X_{45} = \{x_1, x_3, x_6, x_8, b, c\}, X_{46} = \{x_1, x_3, x_6, x_8, x_9, b\}, \\
 X_{47} &= \{x_2, x_4, x_5, x_6, x_8, c\}, X_{48} = \{x_1, x_2, x_4, x_5, x_6, x_8\}, X_{49} = \{x_1, x_2, x_4, x_5, x_6, x_9\}, \\
 X_{50} &= \{x_1, x_2, x_4, x_6, x_8, b, c\}, X_{51} = \{x_2, x_3, x_4, x_5, x_6, x_7, x_8\}, X_{52} = \{x_1, x_2, x_4, x_6, x_8, x_9, b\}, \\
 X_{53} &= \{x_1, x_2, x_4, x_5, x_6, x_8, b\}, X_{54} = \{x_1, x_2, x_4, x_5, x_6, x_8, x_9\}, X_{55} = \{x_2, x_3, x_4, x_6, x_7, x_8, b\}, \\
 X_{56} &= \{x_2, x_3, x_4, x_6, x_7, x_8, b, c\}, X_{57} = \{x_1, x_2, x_4, x_6, x_7, x_8, b, c\}, \\
 X_{58} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, b, c\}, X_{59} = \{x_1, x_2, x_3, x_4, x_6, x_7, x_8, x_9\}, \\
 X_{60} &= \{x_1, x_2, x_3, x_4, x_6, x_7, x_8\}, X_{61} = \{x_1, x_2, x_3, x_4, x_6, x_7, x_9\}, X_{62} = \{x_1, x_2, x_3, x_4, x_6, x_7, x_8, b, c\}, \\
 X_{63} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, b, c\}, X_{64} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, b, c\}, \\
 X_{65} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, b\}, X_{66} = \{x_1, x_2, x_3, x_4, x_6, x_7, x_8, x_9, b\}, \\
 X_{67} &= \{x_1, x_2, x_3, x_4, x_6, x_7, x_8, x_9, b, c\}, X_{68} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, b, c\}, \\
 X_{69} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, b\}, X_{70} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, b, c\}.
 \end{aligned}$$

Maka tetangga dari masing-masing titik  $x_i$  untuk  $i = 1, 2, \dots, 70$  adalah :

$$\begin{aligned}
 B(X_1) &= \{x_2\}, B(X_2) = \{x_4, x_6, b, c\}, B(X_3) = \{x_6, x_8\}, B(X_4) = \{x_1, x_8\}, B(X_5) = \{x_3\}, \\
 B(X_6) &= \{x_2, x_4\}, B(X_7) = \{x_2, x_3, x_5\}, B(X_8) = \{x_2, x_4, x_6, b, c\}, B(X_9) = \{x_1, x_3, x_4, x_6, b, c\}, \\
 B(X_{10}) &= \{x_2, x_4, x_6, b, c\}, B(X_{11}) = \{x_3, x_6, b, c\}, B(X_{12}) = \{x_1, x_4\}, B(X_{13}) = \{x_1, x_3, x_5\}, \\
 B(X_{14}) &= \{x_1, x_3, x_5, x_7\}, B(X_{15}) = \{x_2, x_4, x_6, x_8, b, c\}, B(X_{16}) = \{x_3, x_8\}, \\
 B(X_{17}) &= \{x_2, x_4, x_8\}, B(X_{18}) = \{x_2, x_3, x_5, x_8\}, B(X_{19}) = \{x_3, x_4, x_6, b, c\}, \\
 B(X_{20}) &= \{x_1, x_4, x_6, b, c\}, B(X_{21}) = \{x_1, x_3, x_4, x_6, x_7, x_9, b, c\}, B(X_{22}) = \{x_1, x_5\}, \\
 B(X_{23}) &= \{x_1, x_4, x_5, x_7\}, B(X_{24}) = \{x_1, x_3, x_5, x_6, x_8, c\}, B(X_{25}) = \{x_4\}, B(X_{26}) = \{x_3, x_5\}, \\
 B(X_{27}) &= \{x_2, x_4, x_5, x_7\}, B(X_{28}) = \{x_2, x_3, x_5, x_6, x_8\}, B(X_{29}) = \{x_3, x_4, x_6, x_8, b, c\}, \\
 B(X_{30}) &= \{x_4, x_6, b, c\}, B(X_{31}) = \{x_2, x_4, x_7, b, c\}, B(X_{32}) = \{x_1, x_6, b, c\}, \\
 B(X_{33}) &= \{x_1, x_3, x_6, x_7, x_9, b, c\}, B(X_{34}) = \{x_1, x_5, x_7\}, B(X_{35}) = \{x_1, x_3, x_5, x_7, x_9\}, \\
 B(X_{36}) &= \{x_2, x_4, x_5, x_7, x_8\}, B(X_{37}) = \{x_2, x_4, x_5, x_6, x_8, c\}, B(X_{38}) = \{x_2, x_4, x_5, x_7, x_9, c\}, \\
 B(X_{39}) &= \{x_1, x_3, x_7, x_9, b, c\}, B(X_{40}) = \{x_2, x_4, x_6, x_8, b\}, B(X_{41}) = \{x_2, x_4, x_6, x_8, b, c\}, \\
 B(X_{42}) &= \{x_2, x_4, x_5, x_7, x_8, c\}, B(X_{43}) = \{x_1, x_3, x_5, x_7, x_9, c\}, B(X_{44}) = \{x_1, x_4, x_5, x_6, x_9\},
 \end{aligned}$$



$$\begin{aligned}
 B(X_{45}) &= \{x_2, x_4, x_5, x_7, x_9\}, B(X_{46}) = \{x_2, x_4, x_5, x_7, c\}, B(X_{47}) = \{x_1, x_3, x_7, x_9, b\}, \\
 B(X_{48}) &= \{x_3, x_7, x_9, b, c\}, B(X_{49}) = \{x_1, x_3, x_7, x_8, c\}, B(X_{50}) = \{x_3, x_5, x_7, x_9\}, \\
 B(X_{51}) &= \{x_1, x_9, b, c\}, B(X_{52}) = \{x_3, x_5, x_7, c\}, B(X_{53}) = \{x_3, x_7, x_9, c\}, B(X_{54}) = \{x_3, x_5, x_7\}, \\
 B(X_{55}) &= \{x_1, x_5, x_9, c\}, B(X_{56}) = \{x_1, x_5, x_9\}, B(X_{57}) = \{x_5, x_9\}, B(X_{58}) = \{x_1, x_9\}, \\
 B(X_{59}) &= \{x_5\}, B(X_{60}) = \{x_9, b, c\}, B(X_{61}) = \{x_8, b, c\}, B(X_{62}) = \{x_5, x_9\}, B(X_{63}) = \{x_1, x_9\}, \\
 B(X_{64}) &= \{x_8\}, B(X_{65}) = \{x_9, c\}, B(X_{66}) = \{x_5, c\}, B(X_{67}) = \{x_5\}, B(X_{68}) = \{x_9\}, \\
 B(X_{69}) &= \{c\}, B(X_{70}) = 0.
 \end{aligned}$$

Sehingga diperoleh diferensial himpunan dari masing-masing titik  $x_i$  untuk  $i = 1, 2, \dots,$

70 adalah :

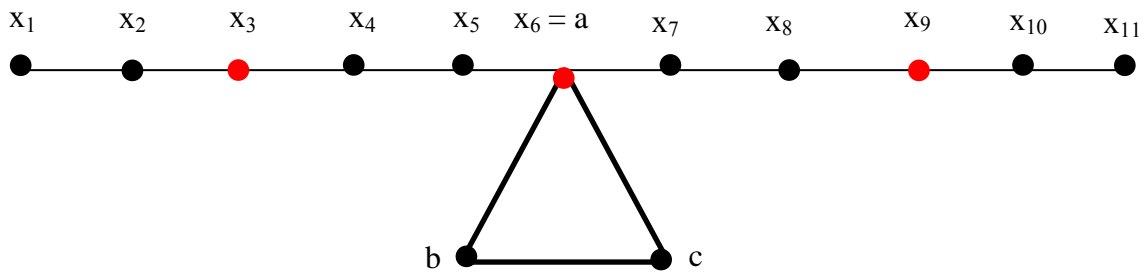
$$\begin{aligned}
 \partial(X_1) &= |B(X_1)| - |X_1| = 1 - 1 = 0, & \partial(X_2) &= |B(X_2)| - |X_2| = 4 - 1 = 3 \\
 \partial(X_3) &= |B(X_3)| - |X_3| = 2 - 1 = 1, & \partial(X_4) &= |B(X_4)| - |X_4| = 2 - 2 = 0, \\
 \partial(X_5) &= |B(X_5)| - |X_5| = 1 - 2 = -1, & \partial(X_6) &= |B(X_6)| - |X_6| = 2 - 2 = 0, \\
 \partial(X_7) &= |B(X_7)| - |X_7| = 3 - 2 = 1, & \partial(X_8) &= |B(X_8)| - |X_8| = 5 - 2 = 3, \\
 \partial(X_9) &= |B(X_9)| - |X_9| = 6 - 2 = 4, & \partial(X_{10}) &= |B(X_{10})| - |X_{10}| = 5 - 2 = 3, \\
 \partial(X_{11}) &= |B(X_{11})| - |X_{11}| = 4 - 2 = 2, & \partial(X_{12}) &= |B(X_{12})| - |X_{12}| = 2 - 2 = 0, \\
 \partial(X_{13}) &= |B(X_{13})| - |X_{13}| = 3 - 2 = 1, & \partial(X_{14}) &= |B(X_{14})| - |X_{14}| = 4 - 2 = 2, \\
 \partial(X_{15}) &= |B(X_{15})| - |X_{15}| = 6 - 3 = 3, & \partial(X_{16}) &= |B(X_{16})| - |X_{16}| = 2 - 3 = -1, \\
 \partial(X_{17}) &= |B(X_{17})| - |X_{17}| = 3 - 3 = 0, & \partial(X_{18}) &= |B(X_{18})| - |X_{18}| = 4 - 3 = 1, \\
 \partial(X_{19}) &= |B(X_{19})| - |X_{19}| = 5 - 3 = 2, & \partial(X_{20}) &= |B(X_{20})| - |X_{20}| = 5 - 3 = 2, \\
 \partial(X_{21}) &= |B(X_{21})| - |X_{21}| = 8 - 3 = 5, & \partial(X_{22}) &= |B(X_{22})| - |X_{22}| = 2 - 3 = -1, \\
 \partial(X_{23}) &= |B(X_{23})| - |X_{23}| = 4 - 3 = 1, & \partial(X_{24}) &= |B(X_{24})| - |X_{24}| = 6 - 3 = 3, \\
 \partial(X_{25}) &= |B(X_{25})| - |X_{25}| = 1 - 3 = -2, & \partial(X_{26}) &= |B(X_{26})| - |X_{26}| = 2 - 3 = -1, \\
 \partial(X_{27}) &= |B(X_{27})| - |X_{27}| = 4 - 3 = 1, & \partial(X_{28}) &= |B(X_{28})| - |X_{28}| = 5 - 3 = 2, \\
 \partial(X_{29}) &= |B(X_{29})| - |X_{29}| = 6 - 4 = 2, & \partial(X_{30}) &= |B(X_{30})| - |X_{30}| = 4 - 4 = 0, \\
 \partial(X_{31}) &= |B(X_{31})| - |X_{31}| = 5 - 4 = 1, & \partial(X_{32}) &= |B(X_{32})| - |X_{32}| = 4 - 4 = 0, \\
 \partial(X_{33}) &= |B(X_{33})| - |X_{33}| = 7 - 4 = 3, & \partial(X_{34}) &= |B(X_{34})| - |X_{34}| = 3 - 4 = -1, \\
 \partial(X_{35}) &= |B(X_{35})| - |X_{35}| = 5 - 4 = 1, & \partial(X_{36}) &= |B(X_{36})| - |X_{36}| = 5 - 4 = 1, \\
 \partial(X_{37}) &= |B(X_{37})| - |X_{37}| = 6 - 4 = 2, & \partial(X_{38}) &= |B(X_{38})| - |X_{38}| = 6 - 5 = 1, \\
 \partial(X_{39}) &= |B(X_{39})| - |X_{39}| = 6 - 5 = 1, & \partial(X_{40}) &= |B(X_{40})| - |X_{40}| = 5 - 5 = 0, \\
 \partial(X_{41}) &= |B(X_{41})| - |X_{41}| = 6 - 5 = 1, & \partial(X_{42}) &= |B(X_{42})| - |X_{42}| = 6 - 5 = 1, \\
 \partial(X_{43}) &= |B(X_{43})| - |X_{43}| = 6 - 5 = 1, & \partial(X_{44}) &= |B(X_{44})| - |X_{44}| = 5 - 6 = -1,
 \end{aligned}$$

$$\begin{aligned}
 \partial (X_{45}) &= |B(X_{45})| - |X_{45}| = 5 - 6 = -1, & \partial (X_{46}) &= |B(X_{46})| - |X_{46}| = 5 - 6 = -1, \\
 \partial (X_{47}) &= |B(X_{47})| - |X_{47}| = 5 - 6 = -1, & \partial (X_{48}) &= |B(X_{48})| - |X_{48}| = 5 - 6 = -1, \\
 \partial (X_{49}) &= |B(X_{49})| - |X_{49}| = 5 - 6 = -1, & \partial (X_{50}) &= |B(X_{50})| - |X_{50}| = 4 - 7 = -3, \\
 \partial (X_{51}) &= |B(X_{51})| - |X_{51}| = 4 - 7 = -3, & \partial (X_{52}) &= |B(X_{52})| - |X_{52}| = 4 - 7 = -3, \\
 \partial (X_{53}) &= |B(X_{53})| - |X_{53}| = 4 - 7 = -3, & \partial (X_{54}) &= |B(X_{54})| - |X_{54}| = 3 - 7 = -4, \\
 \partial (X_{55}) &= |B(X_{55})| - |X_{55}| = 4 - 7 = -3, & \partial (X_{56}) &= |B(X_{56})| - |X_{56}| = 3 - 8 = -5, \\
 \partial (X_{57}) &= |B(X_{57})| - |X_{57}| = 2 - 8 = -6, & \partial (X_{58}) &= |B(X_{58})| - |X_{58}| = 2 - 8 = -6, \\
 \partial (X_{59}) &= |B(X_{59})| - |X_{59}| = 1 - 8 = -7, & \partial (X_{60}) &= |B(X_{60})| - |X_{60}| = 3 - 8 = -5, \\
 \partial (X_{61}) &= |B(X_{61})| - |X_{61}| = 3 - 9 = -6, & \partial (X_{62}) &= |B(X_{62})| - |X_{62}| = 2 - 9 = -7, \\
 \partial (X_{63}) &= |B(X_{63})| - |X_{63}| = 2 - 9 = -7, & \partial (X_{64}) &= |B(X_{64})| - |X_{64}| = 1 - 9 = -8, \\
 \partial (X_{65}) &= |B(X_{65})| - |X_{65}| = 2 - 9 = -7, & \partial (X_{66}) &= |B(X_{66})| - |X_{66}| = 2 - 9 = -7, \\
 \partial (X_{67}) &= |B(X_{67})| - |X_{67}| = 1 - 10 = -9, & \partial (X_{68}) &= |B(X_{68})| - |X_{68}| = 1 - 10 = -9, \\
 \partial (X_{69}) &= |B(X_{69})| - |X_{69}| = 1 - 10 = -9, & \partial (X_{70}) &= |B(X_{70})| - |X_{70}| = 0 - 11 = -11.
 \end{aligned}$$

Maka diferensial dari graf

$$\text{Amal } P_9; C_3, x_5; a) = \max \{5, 4, 3, 2, 1, 0, -1, -2, -3, -4, -5, -6, -7, -8, -9, -11\} = 5.$$

- Untuk  $n = 11 \rightarrow \text{Amal } (P_{11}; C_3, x_6; a)$ .



Gambar Graf Amal  $(P_{11}; C_3, x_6; a)$ .

Diketahui :

$$V(\text{Amal } (P_{11}; C_3, x_6; a)) = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, b, c\}.$$

Pilih :

$$\begin{aligned}
 X_1 &= \{x_1\}, X_2 = \{x_6\}, X_3 = \{x_9\}, X_4 = \{x_1, x_{11}\}, X_5 = \{x_1, x_2\}, X_6 = \{x_1, x_3\}, X_7 = \{x_1, x_4\}, \\
 X_8 &= \{x_1, x_6\}, X_9 = \{x_2, x_6\}, X_{10} = \{x_5, x_6\}, X_{11} = \{x_2, x_3\}, X_{12} = \{x_2, x_4\}, X_{13} = \{x_2, x_7\}, \\
 X_{14} &= \{x_1, x_6, x_{11}\}, X_{15} = \{x_1, x_2, x_{11}\}, X_{16} = \{x_1, x_3, x_{11}\}, X_{17} = \{x_1, x_4, x_{11}\}, X_{18} = \{x_1, x_2, x_6\}, \\
 X_{19} &= \{x_3, x_6, x_9\}, X_{20} = \{x_2, x_6, x_{10}\}, X_{21} = \{x_2, x_3, x_4\}, X_{22} = \{x_2, x_3, x_7\}, X_{23} = \{x_2, x_5, x_8\}, \\
 X_{24} &= \{x_1, x_2, x_3\}, X_{25} = \{x_1, x_2, x_4\}, X_{26} = \{x_1, x_2, x_5\}, X_{27} = \{x_1, x_2, x_6, x_{11}\}, \\
 X_{28} &= \{x_1, x_3, x_6, x_{11}\}, X_{29} = \{x_1, x_2, x_3, x_6\}, X_{30} = \{x_1, x_3, x_6, x_9\}, X_{31} = \{x_2, x_4, x_6, x_9\},
 \end{aligned}$$

$$\begin{aligned}
 X_{32} &= \{x_2, x_3, x_4, x_5\}, X_{33} = \{x_2, x_3, x_4, x_7\}, X_{34} = \{x_2, x_4, x_7, x_{10}\}, X_{35} = \{x_2, x_5, x_8, b\}, \\
 X_{36} &= \{x_1, x_3, x_8, x_{11}\}, X_{37} = \{x_1, x_3, x_5, x_8\}, X_{38} = \{x_2, x_4, x_7, x_9, x_{11}\}, \\
 X_{39} &= \{x_2, x_4, x_6, x_7, x_{10}\}, X_{40} = \{x_2, x_4, x_6, x_7, x_{11}\}, X_{41} = \{x_1, x_3, x_6, x_8, x_{11}\}, \\
 X_{42} &= \{x_1, x_2, x_4, x_7, x_{11}\}, X_{43} = \{x_2, x_4, x_7, x_9, b\}, X_{44} = \{x_2, x_4, x_7, x_9, x_{10}, b\}, \\
 X_{45} &= \{x_1, x_2, x_4, x_7, x_9, b\}, X_{46} = \{x_1, x_2, x_4, x_7, x_9, x_{11}\}, X_{47} = \{x_2, x_4, x_7, x_9, b\}, \\
 X_{48} &= \{x_1, x_2, x_4, x_6, x_7, x_9\}, X_{49} = \{x_1, x_2, x_4, x_6, x_8, x_{11}\}, X_{50} = \{x_1, x_2, x_4, x_7, x_9, x_{10}, b\}, \\
 X_{51} &= \{x_2, x_4, x_6, x_7, x_9, x_{10}, b\}, X_{52} = \{x_1, x_2, x_4, x_7, x_9, x_{11}, b\}, X_{53} = \{x_1, x_2, x_4, x_6, x_7, x_9, b\}, \\
 X_{54} &= \{x_1, x_2, x_4, x_6, x_8, x_{10}, x_{11}\}, X_{55} = \{x_2, x_4, x_7, x_9, x_{10}, b, c\}, \\
 X_{56} &= \{x_2, x_3, x_4, x_5, x_7, x_8, x_9, x_{10}\}, X_{57} = \{x_1, x_2, x_4, x_5, x_7, x_9, b, c\}, \\
 X_{58} &= \{x_2, x_4, x_5, x_6, x_7, x_9, b, c\}, X_{59} = \{x_1, x_2, x_4, x_7, x_9, x_{11}, b\}, \\
 X_{60} &= \{x_3, x_4, x_5, x_6, x_7, x_8, b, c\}, X_{61} = \{x_1, x_2, x_4, x_6, x_7, x_9, x_{11}, b\}, \\
 X_{62} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, b, c\}, X_{63} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, b, c\}, \\
 X_{64} &= \{x_1, x_2, x_4, x_5, x_6, x_7, x_9, x_{11}, b\}, X_{65} = \{x_1, x_2, x_3, x_4, x_6, x_7, x_9, x_{10}, b\}, \\
 X_{66} &= \{x_1, x_2, x_3, x_4, x_5, x_7, x_8, x_9, x_{11}\}, X_{67} = \{x_2, x_3, x_4, x_5, x_7, x_8, x_9, x_{10}\}, \\
 X_{68} &= \{x_1, x_2, x_3, x_4, x_5, x_7, x_8, x_9, x_{10}, b\}, X_{69} = \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, b\}, \\
 X_{70} &= \{x_1, x_2, x_3, x_4, x_7, x_8, x_9, x_{10}, x_{11}, b\}, X_{71} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}\}, \\
 X_{72} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{11}\}, X_{73} = \{x_1, x_2, x_3, x_4, x_5, x_7, x_8, x_9, x_{10}, b, c\}, \\
 X_{74} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, b, c\}, X_{75} = \{x_1, x_2, x_3, x_4, x_5, x_7, x_8, x_9, x_{10}, x_{11}, b\}, \\
 X_{76} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, b\}, X_{77} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}\}, \\
 X_{78} &= \{x_1, x_2, x_3, x_4, x_5, x_7, x_8, x_9, x_{10}, x_{11}, b, c\}, X_{79} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, b, c\}, \\
 X_{80} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, b\}, X_{81} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, b, c\}.
 \end{aligned}$$

Maka tetangga dari masing-masing titik  $x_i$  untuk  $i = 1, 2, \dots, 81$  adalah :

$$\begin{aligned}
 B(X_1) &= \{x_2\}, B(X_2) = \{x_5, x_7, b, c\}, B(X_3) = \{x_8, x_{10}\}, B(X_4) = \{x_2, x_{10}\}, B(X_5) = \{x_3\}, \\
 B(X_6) &= \{x_2, x_4\}, B(X_7) = \{x_2, x_3, x_5\}, B(X_8) = \{x_2, x_5, x_7, b, c\}, B(X_9) = \{x_1, x_3, x_5, x_7, b, c\}, \\
 B(X_{10}) &= \{x_4, x_7, b, c\}, B(X_{11}) = \{x_1, x_4\}, B(X_{12}) = \{x_1, x_3, x_5\}, B(X_{13}) = \{x_1, x_3, x_6, x_8\}, \\
 B(X_{14}) &= \{x_1, x_3, x_5, x_7\}, B(X_{15}) = \{x_2, x_5, x_7, x_{10}, b, c\}, B(X_{16}) = \{x_3, x_{10}\}, \\
 B(X_{17}) &= \{x_2, x_4, x_{10}\}, B(X_{18}) = \{x_3, x_5, x_7, b, c\}, B(X_{19}) = \{x_2, x_4, x_5, x_7, x_8, x_{10}, b, c\}, \\
 B(X_{20}) &= \{x_1, x_3, x_5, x_7, x_9, x_{11}, b, c\}, B(X_{21}) = \{x_1, x_5\}, B(X_{22}) = \{x_1, x_4, x_6, x_8\}, \\
 B(X_{23}) &= \{x_1, x_3, x_4, x_6, x_7, x_9\}, B(X_{24}) = \{x_4\}, B(X_{25}) = \{x_3, x_5\}, B(X_{26}) = \{x_3, x_4, x_6\}, \\
 B(X_{27}) &= \{x_3, x_5, x_7, x_{10}, b, c\}, B(X_{28}) = \{x_2, x_4, x_5, x_7, x_{10}, b, c\}, B(X_{29}) = \{x_4, x_5, x_7, b, c\}, \\
 B(X_{30}) &= \{x_2, x_4, x_5, x_7, x_8, x_{10}, b, c\}, B(X_{31}) = \{x_1, x_3, x_5, x_7, x_8, x_{10}, b, c\}, B(X_{32}) = \{x_1, x_4\}, \\
 B(X_{33}) &= \{x_1, x_6, x_8\}, B(X_{34}) = \{x_1, x_3, x_5, x_6, x_8, x_9, x_{11}\}, B(X_{35}) = \{x_1, x_3, x_4, x_6, x_7, x_9, c\},
 \end{aligned}$$

$$\begin{aligned}
 B(X_{36}) &= \{x_2, x_4, x_7, x_9, x_{10}\}, B(X_{37}) = \{x_2, x_4, x_6, x_7, x_9\}, B(X_{38}) = \{X_1, X_3, X_5, X_6, X_8, X_{10}\}, \\
 B(X_{39}) &= \{x_1, x_3, x_5, x_8, x_9, X_{11}, b, c\}, B(X_{40}) = \{x_1, x_3, x_5, x_8, x_{10}, b, c\}, \\
 B(X_{41}) &= \{x_2, x_4, x_5, x_7, x_9, X_{10}, b, c\}, B(X_{42}) = \{x_3, x_5, x_6, x_8, x_{10}\}, \\
 B(X_{43}) &= \{x_1, x_3, x_5, x_6, x_8, x_{10}, c\}, B(X_{44}) = \{x_1, x_3, x_5, x_6, x_8, x_{11}, c\}, \\
 B(X_{45}) &= \{x_3, x_5, x_6, x_8, x_{10}\}, B(X_{46}) = \{x_3, x_5, x_6, x_8, x_{10}\}, \\
 B(X_{47}) &= \{x_1, x_3, x_5, x_8, x_{10}, c\}, B(X_{48}) = \{x_3, x_8, x_{10}, b, c\}, B(X_{49}) = \{x_3, x_7, x_9, x_{10}, b, c\}, \\
 B(X_{50}) &= \{x_3, x_5, x_6, x_8, x_{11}, b\}, B(X_{51}) = \{x_1, x_3, x_5, x_8, x_{11}, c\}, \\
 B(X_{52}) &= \{x_3, x_5, x_6, x_8, x_{10}, c\}, B(X_{53}) = \{x_3, x_5, x_8, x_{10}, c\}, B(X_{54}) = \{x_3, x_5, x_7, x_9, b, c\}, \\
 B(X_{55}) &= \{x_1, x_3, x_5, x_6, x_8, x_{11}\}, B(X_{56}) = \{x_1, x_6, x_{11}\}, B(X_{57}) = \{x_3, x_6, x_8, x_{10}\}, \\
 B(X_{58}) &= \{x_1, x_3, x_8, x_{10}\}, B(X_{59}) = \{x_3, x_5, x_6, x_8, x_{10}, c\}, B(X_{60}) = \{x_2, x_9\}, \\
 B(X_{61}) &= \{x_3, x_5, x_8, x_{10}, c\}, B(X_{62}) = \{x_{10}\}, B(X_{63}) = \{x_8\}, B(X_{64}) = \{x_3, x_8, x_{10}, c\}, \\
 B(X_{65}) &= \{x_5, x_8, x_{11}, c\}, B(X_{66}) = \{x_6, x_{10}\}, B(X_{67}) = \{x_1, x_6, x_{11}\}, B(X_{68}) = \{x_6, x_{11}, c\}, \\
 B(X_{69}) &= \{x_1, x_{11}, c\}, B(X_{70}) = \{x_5, x_6, c\}, B(X_{71}) = \{x_{11}, b, c\}, B(X_{72}) = \{x_{10}, b, c\}, \\
 B(X_{73}) &= \{x_6, x_{11}\}, B(X_{74}) = \{x_1, x_{11}\}, B(X_{75}) = \{x_6, c\}, B(X_{76}) = \{x_{11}, c\}, B(X_{77}) = \{b, c\}, \\
 B(X_{78}) &= \{x_6\}, B(X_{79}) = \{x_{11}\}, B(X_{80}) = \{c\}, B(X_{81}) = 0.
 \end{aligned}$$

Sehingga diperoleh diferensial himpunan dari masing-masing titik  $x_i$  untuk  $i = 1, 2, \dots$ ,  
 81 adalah :

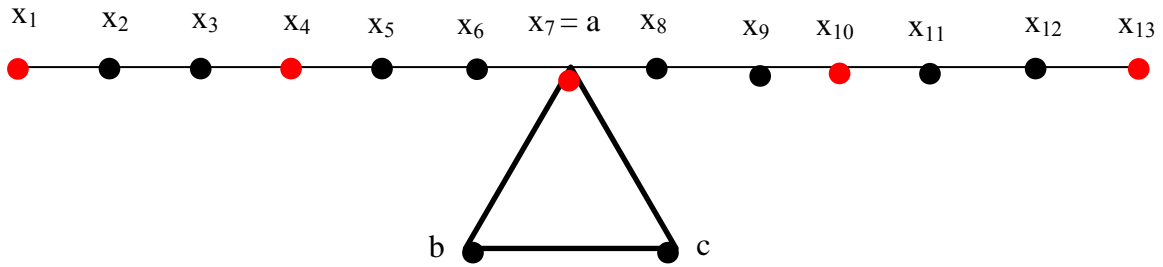
$$\begin{aligned}
 \partial(X_1) &= |B(X_1)| - |X_1| = 1 - 1 = 0, & \partial(X_2) &= |B(X_2)| - |X_2| = 4 - 1 = 3, \\
 \partial(X_3) &= |B(X_3)| - |X_3| = 2 - 1 = 1, & \partial(X_4) &= |B(X_4)| - |X_4| = 2 - 2 = 0, \\
 \partial(X_5) &= |B(X_5)| - |X_5| = 1 - 2 = -1, & \partial(X_6) &= |B(X_6)| - |X_6| = 2 - 2 = 0, \\
 \partial(X_7) &= |B(X_7)| - |X_7| = 3 - 2 = 1, & \partial(X_8) &= |B(X_8)| - |X_8| = 5 - 2 = 3, \\
 \partial(X_9) &= |B(X_9)| - |X_9| = 6 - 2 = 4, & \partial(X_{10}) &= |B(X_{10})| - |X_{10}| = 4 - 2 = 2, \\
 \partial(X_{11}) &= |B(X_{11})| - |X_{11}| = 2 - 2 = 0, & \partial(X_{12}) &= |B(X_{12})| - |X_{12}| = 3 - 2 = 1, \\
 \partial(X_{13}) &= |B(X_{13})| - |X_{13}| = 4 - 2 = 2, & \partial(X_{14}) &= |B(X_{14})| - |X_{14}| = 6 - 3 = 3, \\
 \partial(X_{15}) &= |B(X_{15})| - |X_{15}| = 2 - 3 = -1, & \partial(X_{16}) &= |B(X_{16})| - |X_{16}| = 3 - 3 = 0, \\
 \partial(X_{17}) &= |B(X_{17})| - |X_{17}| = 4 - 3 = 1, & \partial(X_{18}) &= |B(X_{18})| - |X_{18}| = 5 - 3 = 2, \\
 \partial(X_{19}) &= |B(X_{19})| - |X_{19}| = 8 - 3 = 5, & \partial(X_{20}) &= |B(X_{20})| - |X_{20}| = 8 - 3 = 5, \\
 \partial(X_{21}) &= |B(X_{21})| - |X_{21}| = 2 - 3 = -1, & \partial(X_{22}) &= |B(X_{22})| - |X_{22}| = 4 - 3 = 1, \\
 \partial(X_{23}) &= |B(X_{23})| - |X_{23}| = 6 - 3 = 3, & \partial(X_{24}) &= |B(X_{24})| - |X_{24}| = 1 - 3 = -2, \\
 \partial(X_{25}) &= |B(X_{25})| - |X_{25}| = 2 - 3 = -1, & \partial(X_{26}) &= |B(X_{26})| - |X_{26}| = 3 - 3 = 0, \\
 \partial(X_{27}) &= |B(X_{27})| - |X_{27}| = 6 - 4 = 2, & \partial(X_{28}) &= |B(X_{28})| - |X_{28}| = 7 - 4 = 3,
 \end{aligned}$$

$$\begin{aligned}
 \partial (X_{29}) &= |B(X_{29})| - |X_{29}| = 5 - 4 = 1, & \partial (X_{30}) &= |B(X_{30})| - |X_{30}| = 8 - 4 = 4, \\
 \partial (X_{31}) &= |B(X_{31})| - |X_{31}| = 8 - 4 = 4, & \partial (X_{32}) &= |B(X_{32})| - |X_{32}| = 2 - 4 = -2, \\
 \partial (X_{33}) &= |B(X_{33})| - |X_{33}| = 3 - 4 = -1, & \partial (X_{34}) &= |B(X_{34})| - |X_{34}| = 7 - 4 = 3, \\
 \partial (X_{35}) &= |B(X_{35})| - |X_{35}| = 7 - 4 = 3, & \partial (X_{36}) &= |B(X_{36})| - |X_{36}| = 5 - 4 = 1, \\
 \partial (X_{37}) &= |B(X_{37})| - |X_{37}| = 5 - 4 = 1, & \partial (X_{38}) &= |B(X_{38})| - |X_{38}| = 6 - 5 = 1, \\
 \partial (X_{39}) &= |B(X_{39})| - |X_{39}| = 8 - 5 = 3, & \partial (X_{40}) &= |B(X_{40})| - |X_{40}| = 7 - 5 = 2, \\
 \partial (X_{41}) &= |B(X_{41})| - |X_{41}| = 8 - 5 = 3, & \partial (X_{42}) &= |B(X_{42})| - |X_{42}| = 5 - 5 = 0, \\
 \partial (X_{43}) &= |B(X_{43})| - |X_{43}| = 7 - 5 = 2, & \partial (X_{44}) &= |B(X_{44})| - |X_{44}| = 7 - 6 = 1, \\
 \partial (X_{45}) &= |B(X_{45})| - |X_{45}| = 5 - 6 = -1, & \partial (X_{46}) &= |B(X_{46})| - |X_{46}| = 5 - 6 = -1, \\
 \partial (X_{47}) &= |B(X_{47})| - |X_{47}| = 6 - 6 = 0, & \partial (X_{48}) &= |B(X_{48})| - |X_{48}| = 5 - 6 = -1, \\
 \partial (X_{49}) &= |B(X_{49})| - |X_{49}| = 6 - 6 = 0, & \partial (X_{50}) &= |B(X_{50})| - |X_{50}| = 6 - 7 = -1, \\
 \partial (X_{51}) &= |B(X_{51})| - |X_{51}| = 6 - 7 = -1, & \partial (X_{52}) &= |B(X_{52})| - |X_{52}| = 6 - 7 = -1, \\
 \partial (X_{53}) &= |B(X_{53})| - |X_{53}| = 5 - 7 = -2, & \partial (X_{54}) &= |B(X_{54})| - |X_{54}| = 6 - 7 = -1, \\
 \partial (X_{55}) &= |B(X_{55})| - |X_{55}| = 6 - 7 = -1, & \partial (X_{56}) &= |B(X_{56})| - |X_{56}| = 3 - 8 = -5, \\
 \partial (X_{57}) &= |B(X_{57})| - |X_{57}| = 4 - 8 = -4, & \partial (X_{58}) &= |B(X_{58})| - |X_{58}| = 4 - 8 = -4, \\
 \partial (X_{59}) &= |B(X_{59})| - |X_{59}| = 5 - 8 = -3, & \partial (X_{60}) &= |B(X_{60})| - |X_{60}| = 2 - 8 = -6, \\
 \partial (X_{61}) &= |B(X_{61})| - |X_{61}| = 4 - 9 = -5, & \partial (X_{62}) &= |B(X_{62})| - |X_{62}| = 1 - 11 = -10, \\
 \partial (X_{63}) &= |B(X_{63})| - |X_{63}| = 1 - 9 = -8, & \partial (X_{64}) &= |B(X_{64})| - |X_{64}| = 4 - 9 = -5, \\
 \partial (X_{65}) &= |B(X_{65})| - |X_{65}| = 4 - 9 = -5, & \partial (X_{66}) &= |B(X_{66})| - |X_{66}| = 2 - 9 = -7, \\
 \partial (X_{67}) &= |B(X_{67})| - |X_{67}| = 3 - 8 = -5, & \partial (X_{68}) &= |B(X_{68})| - |X_{68}| = 3 - 10 = -7, \\
 \partial (X_{69}) &= |B(X_{69})| - |X_{69}| = 3 - 10 = -7, & \partial (X_{70}) &= |B(X_{70})| - |X_{70}| = 3 - 10 = -7, \\
 \partial (X_{71}) &= |B(X_{71})| - |X_{71}| = 3 - 10 = -7, & \partial (X_{72}) &= |B(X_{72})| - |X_{72}| = 3 - 10 = -7, \\
 \partial (X_{73}) &= |B(X_{73})| - |X_{73}| = 2 - 11 = -9, & \partial (X_{74}) &= |B(X_{74})| - |X_{74}| = 2 - 11 = -9, \\
 \partial (X_{75}) &= |B(X_{75})| - |X_{75}| = 2 - 11 = -9, & \partial (X_{76}) &= |B(X_{76})| - |X_{76}| = 2 - 11 = -9, \\
 \partial (X_{77}) &= |B(X_{77})| - |X_{77}| = 2 - 11 = -9, & \partial (X_{78}) &= |B(X_{78})| - |X_{78}| = 1 - 12 = -11, \\
 \partial (X_{79}) &= |B(X_{79})| - |X_{79}| = 1 - 12 = -11, & \partial (X_{80}) &= |B(X_{80})| - |X_{80}| = 1 - 12 = -11, \\
 \partial (X_{81}) &= |B(X_{81})| - |X_{81}| = 0 - 13 = -13.
 \end{aligned}$$

Maka diferensial dari graf

$$\text{Amal } (P_{11}; C_3, x_6; a) = \max \{5, 4, 3, 2, 1, 0, -1, -2, -3, -4, -5, -6, -7, -8, -9, -10, -11, -13\} = 5$$

- Untuk  $n = 13 \rightarrow \text{Amal}(P_{13}; C_3, x_7; a)$ .



Gambar Graf Amal  $(P_{13}; C_3, x_7; a)$ .

Diketahui :

$$V(\text{Amal}(P_{13}; C_3, x_7; a)) = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, b, c\}.$$

Pilih :

$$\begin{aligned} X_1 &= \{x_1\}, X_2 = \{x_7\}, X_3 = \{x_9\}, X_4 = \{x_1, x_{13}\}, X_5 = \{x_1, x_2\}, X_6 = \{x_1, x_3\}, X_7 = \{x_1, x_4\}, \\ X_8 &= \{x_1, x_7\}, X_9 = \{x_2, x_7\}, X_{10} = \{x_5, x_7\}, X_{11} = \{x_6, x_7\}, X_{12} = \{x_2, x_3\}, X_{13} = \{x_2, x_4\}, \\ X_{14} &= \{x_2, x_5\}, X_{15} = \{x_1, x_7, x_{13}\}, X_{16} = \{x_1, x_2, x_{13}\}, X_{17} = \{x_1, x_3, x_{13}\}, X_{18} = \{x_1, x_4, x_{13}\}, \\ X_{19} &= \{x_1, x_2, x_7\}, X_{20} = \{x_1, x_3, x_7\}, X_{21} = \{x_1, x_4, x_7\}, X_{22} = \{x_2, x_3, 4\}, X_{23} = \{x_2, x_4, x_7\}, \\ X_{24} &= \{x_2, x_3, x_4\}, X_{25} = \{x_2, x_3, x_5\}, X_{26} = \{x_2, x_5, x_8\}, X_{27} = \{x_1, x_2, x_3\}, X_{28} = \{x_1, x_2, x_4\}, \\ X_{29} &= \{x_1, x_4, x_8\}, X_{30} = \{x_1, x_2, x_7, x_{13}\}, X_{31} = \{x_1, x_3, x_7, x_{13}\}, X_{32} = \{x_1, x_4, x_7, x_{13}\} \\ X_{33} &= \{x_1, x_4, x_7, x_{10}\}, X_{34} = \{x_2, x_5, x_7, x_{10}\}, X_{35} = \{x_2, x_5, x_8, x_{11}\}, X_{36} = \{x_1, x_4, x_{10}, x_{13}\} \\ X_{37} &= \{x_1, x_4, x_8, x_{13}\}, X_{38} = \{x_1, x_2, x_3, x_4, x_5\}, X_{39} = \{x_2, x_5, x_7, x_9, x_{10}, x_{12}\}, \\ X_{40} &= \{x_1, x_4, x_7, x_{10}, x_{12}\}, X_{41} = \{x_1, x_4, x_7, x_{10}, x_{13}\}, X_{42} = \{x_1, x_4, x_8, x_{13}, b\}, \\ X_{43} &= \{x_2, x_5, x_8, x_{11}, b\}, X_{44} = \{x_2, x_5, x_8, x_{11}, x_{12}, b\}, X_{45} = \{x_1, x_4, x_9, x_{12}, b, c\}, \\ X_{46} &= \{x_1, x_3, x_5, x_8, x_{11}, x_{13}\}, X_{47} = \{x_2, x_5, x_7, x_8, x_{11}, b\}, X_{48} = \{x_1, x_3, x_5, x_7, x_8, x_{11}\}, \\ X_{49} &= \{x_1, x_4, x_7, x_8, x_{11}, x_{13}\}, X_{50} = \{x_1, x_3, x_5, x_8, x_{10}, x_{12}, b\}, \\ X_{51} &= \{x_2, x_5, x_7, x_9, x_{11}, x_{12}, b\}, X_{52} = \{x_1, x_3, x_5, x_8, x_{10}, x_{13}, b\}, \\ X_{53} &= \{x_1, x_3, x_5, x_7, x_8, x_{10}, x_{12}\}, X_{54} = \{x_1, x_4, x_7, x_8, x_{10}, x_{12}, x_{13}\}, \\ X_{55} &= \{x_2, x_4, x_6, x_8, x_{10}, b\}, X_{56} = \{x_2, x_4, x_5, x_8, x_{11}, x_{12}, b, c\}, \\ X_{57} &= \{x_1, x_2, x_4, x_6, x_8, x_{10}, x_{12}, b\}, X_{58} = \{x_2, x_4, x_6, x_7, x_8, x_{10}, x_{12}, b\}, \\ X_{59} &= \{x_4, x_5, x_6, x_7, x_8, x_9, b, c\}, X_{60} = \{x_1, x_3, x_5, x_7, x_8, x_{10}, x_{12}, b\}, \\ X_{61} &= \{x_1, x_2, x_4, x_6, x_7, x_9, x_{12}, x_{13}\}, X_{62} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, b, c\}, \\ X_{63} &= \{x_1, x_3, x_4, x_5, x_6, x_8, x_{10}, x_{12}, b\}, X_{64} = \{x_3, x_4, x_5, x_6, x_7, x_8, x_{10}, x_{13}, b\}, \\ X_{65} &= \{x_1, x_2, x_4, x_5, x_6, x_9, x_{11}, x_{13}, b\}, X_{66} = \{x_1, x_2, x_4, x_5, x_6, x_7, x_9, x_{11}, x_{12}\}, \\ X_{67} &= \{x_1, x_3, x_5, x_7, x_8, x_{10}, x_{12}, x_{13}, b\}, X_{68} = \{x_2, x_3, x_4, x_5, x_6, x_9, x_{11}, x_{12}, b, c\}, \end{aligned}$$

$$\begin{aligned}
 X_{69} &= \{x_2, x_4, x_6, x_8, x_9, x_{10}, x_{11}, x_{12}, b\}, X_{70} = \{x_2, x_3, x_4, x_6, x_7, x_8, x_9, x_{10}, x_{12}, b\}, \\
 X_{71} &= \{x_1, x_3, x_5, x_6, x_8, x_{10}, x_{12}, x_{13}, b, c\}, X_{72} = \{x_1, x_2, x_4, x_6, x_7, x_8, x_{10}, x_{12}, x_{13}, c\}, \\
 X_{73} &= \{x_1, x_2, x_4, x_6, x_7, x_8, x_{10}, x_{12}, x_{13}, b\}, X_{74} = \{x_2, x_3, x_4, x_5, x_6, x_8, x_9, x_{10}, x_{11}, x_{12}, b\}, \\
 X_{75} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, b, c\}, X_{76} = \{x_2, x_4, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, b, c\}, \\
 X_{77} &= \{x_1, x_3, x_5, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, b, c\}, X_{78} = \{x_1, x_3, x_5, x_6, x_7, x_8, x_{10}, x_{11}, x_{12}, b, c\}, \\
 X_{79} &= \{x_2, x_3, x_4, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, b\}, X_{80} = \{x_2, x_3, x_4, x_5, x_6, x_8, x_9, x_{10}, x_{11}, x_{12}, b, c\}, \\
 X_{81} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_8, x_9, x_{10}, x_{11}, x_{12}, b\}, X_{82} = \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, b\}, \\
 X_{83} &= \{x_1, x_2, x_3, x_5, x_6, x_8, x_{10}, x_{11}, x_{12}, x_{13}, b, c\}, \\
 X_{84} &= \{x_1, x_2, x_4, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, b, c\}, \\
 X_{85} &= \{x_1, x_2, x_4, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, b\}, \\
 X_{86} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_8, x_9, x_{10}, x_{11}, x_{12}, b, c\}, \\
 X_{87} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, b, c\}, \\
 X_{88} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, b\}, \\
 X_{89} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, b\}, \\
 X_{90} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}\}, \\
 X_{91} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, b, c\}, \\
 X_{92} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, b, c\}, \\
 X_{93} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, b\}, \\
 X_{94} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, b, c\}.
 \end{aligned}$$

Maka tetangga dari masing-masing titik  $x_i$  untuk  $i = 1, 2, \dots, 94$  adalah :

$$\begin{aligned}
 B(X_1) &= \{x_2\}, B(X_2) = \{x_6, x_8, b, c\}, B(X_3) = \{x_8, x_{10}\}, B(X_4) = \{x_2, x_{12}\}, B(X_5) = \{x_3\}, \\
 B(X_6) &= \{x_2, x_4\}, B(X_7) = \{x_2, x_3, x_5\}, B(X_8) = \{x_2, x_6, x_8, b, c\}, B(X_9) = \{x_1, x_3, x_6, x_1, b, c\}, \\
 B(X_{10}) &= \{x_4, x_6, x_8, b, c\}, B(X_{11}) = \{x_5, x_8, b, c\}, B(X_{12}) = \{x_1, x_4\}, B(X_{13}) = \{x_1, x_3, x_5\}, \\
 B(X_{14}) &= \{x_1, x_3, x_4, x_6\}, B(X_{15}) = \{x_2, x_6, x_8, x_{12}, b, c\}, B(X_{16}) = \{x_3, x_{12}\}, \\
 B(X_{17}) &= \{x_2, x_4, x_{12}\}, B(X_{18}) = \{x_2, x_3, x_5, x_{12}\}, B(X_{19}) = \{x_3, x_6, x_8, b, c\}, \\
 B(X_{20}) &= \{x_2, x_4, x_6, x_8, b, c\}, B(X_{21}) = \{x_2, x_3, x_5, x_6, x_8, b, c\}, B(X_{22}) = \{x_1, x_5\}, \\
 B(X_{23}) &= \{x_1, x_3, x_5, x_6, x_8, b, c\}, B(X_{24}) = \{x_1, x_5\}, B(X_{25}) = \{x_1, x_4, x_6\}, \\
 B(X_{26}) &= \{x_1, x_3, x_4, x_6, x_7, x_9\}, B(X_{27}) = \{x_4\}, B(X_{28}) = \{x_3, x_5\}, B(X_{29}) = \{x_2, x_3, x_5, x_7, x_9\}, \\
 B(X_{30}) &= \{x_3, x_6, x_8, x_{12}, b, c\}, B(X_{31}) = \{x_2, x_4, x_6, x_8, x_{12}, b, c\}, \\
 B(X_{32}) &= \{x_2, x_3, x_5, x_6, x_8, x_{12}, b, c\}, B(X_{33}) = \{x_2, x_3, x_5, x_6, x_8, x_9, x_{11}, b, c\}, \\
 B(X_{34}) &= \{x_1, x_3, x_4, x_6, x_8, x_9, x_{11}, b, c\}, B(X_{35}) = \{x_1, x_3, x_4, x_6, x_7, x_9, x_{10}, x_{12}\}, \\
 B(X_{36}) &= \{x_2, x_3, x_5, x_9, x_{11}, x_{12}\}, B(X_{37}) = \{x_2, x_3, x_5, x_7, x_9, x_{10}, x_{12}\},
 \end{aligned}$$

$$\begin{aligned}
 B(X_{38}) &= \{x_6\}, B(X_{39}) = \{x_1, x_3, x_4, x_6, x_8, x_{10}, x_{11}, x_{13}, b, c\}, \\
 B(X_{40}) &= \{x_2, x_3, x_5, x_6, x_8, x_9, x_{11}, x_{13}, b, c\}, B(X_{41}) = \{x_2, x_3, x_5, x_6, x_8, x_9, x_{11}, x_{12}, b, c\}, \\
 B(X_{42}) &= \{x_2, x_3, x_5, x_7, x_9, x_{12}, c\}, B(X_{43}) = \{x_1, x_3, x_4, x_6, x_7, x_9, x_{10}, x_{12}, c\}, \\
 B(X_{44}) &= \{x_1, x_3, x_4, x_6, x_7, x_9, x_{10}, x_{13}, c\}, B(X_{45}) = \{x_1, x_3, x_5, x_7, x_8, x_{10}, x_{11}, x_{13}\}, \\
 B(X_{46}) &= \{x_2, x_4, x_6, x_7, x_9, x_{10}, x_{12}\}, B(X_{47}) = \{x_1, x_3, x_4, x_6, x_9, x_{10}, x_{12}, c\}, \\
 B(X_{48}) &= \{x_2, x_4, x_6, x_9, x_{10}, x_{12}, b, c\}, B(X_{49}) = \{x_2, x_3, x_5, x_6, x_9, x_{10}, x_{12}, b, c\}, \\
 B(X_{50}) &= \{x_2, x_4, x_6, x_7, x_9, x_{11}, x_{13}, c\}, B(X_{51}) = \{x_1, x_3, x_4, x_6, x_8, x_{10}, x_{13}, c\}, \\
 B(X_{52}) &= \{x_2, x_4, x_6, x_7, x_9, x_{11}, x_{13}, c\}, B(X_{53}) = \{x_2, x_4, x_6, x_9, x_{11}, x_{13}, b, c\}, \\
 B(X_{54}) &= \{x_2, x_3, x_5, x_6, x_9, x_{11}, b, c\}, B(X_{55}) = \{x_1, x_3, x_5, x_7, x_9, x_{11}, c\}, \\
 B(X_{56}) &= \{x_1, x_3, x_6, x_7, x_9, x_{10}, x_{13}\}, B(X_{57}) = \{x_1, x_3, x_5, x_7, x_9, x_{11}, x_{13}, c\}, \\
 B(X_{58}) &= \{x_1, x_3, x_5, x_9, x_{11}, x_{13}, c\}, B(X_{59}) = \{x_3, x_{10}\}, B(X_{60}) = \{x_2, x_4, x_6, x_9, x_{11}, x_{13}, c\}, \\
 B(X_{61}) &= \{x_3, x_5, x_8, x_{10}, x_{11}, b, c\}, B(X_{62}) = \{x_1, x_9\}, B(X_{63}) = \{x_2, x_7, x_9, x_{11}, x_{13}, c\}, \\
 B(X_{64}) &= \{x_1, x_2, x_9, x_{11}, x_{13}, c\}, B(X_{65}) = \{x_3, x_7, x_8, x_{10}, x_{12}, c\}, \\
 B(X_{66}) &= \{x_3, x_8, x_{10}, x_{13}, b, c\}, B(X_{67}) = \{x_2, x_4, x_6, x_9, x_{11}, c\}, B(X_{68}) = \{x_1, x_7, x_8, x_{10}, x_{13}\}, \\
 B(X_{69}) &= \{x_3, x_5, x_7, x_{13}, c\}, B(X_{70}) = \{x_1, x_5, x_{11}, x_{13}, c\}, B(X_{71}) = \{x_2, x_4, x_7, x_9, x_{11}\}, \\
 B(X_{72}) &= \{x_3, x_5, x_9, x_{11}, x_{13}\}, B(X_{73}) = \{x_3, x_5, x_9, x_{11}, c\}, B(X_{74}) = \{x_1, x_7, x_{13}, c\}, \\
 B(X_{75}) &= \{x_{10}\}, B(X_{76}) = \{x_1, x_3, x_5, x_{13}\}, B(X_{77}) = \{x_2, x_4, x_6, x_7\}, B(X_{78}) = \{x_2, x_4, x_9, x_{13}\}, \\
 B(X_{79}) &= \{x_3, x_5, x_{12}, c\}, B(X_{80}) = \{x_1, x_7, x_{13}\}, B(X_{81}) = \{x_7, x_{13}, c\}, B(X_{82}) = \{x_{13}, c\}, \\
 B(X_{83}) &= \{x_4, x_7, x_9\}, B(X_{84}) = \{x_3, x_5, x_{13}\}, B(X_{85}) = \{x_3, x_5, c\}, B(X_{86}) = \{x_7, x_{13}\}, \\
 B(X_{87}) &= \{x_1, x_{13}\}, B(X_{88}) = \{x_7, c\}, B(X_{89}) = \{x_{13}\}, B(X_{90}) = \{b, c\}, B(X_{91}) = \{x_7\}, \\
 B(X_{92}) &= \{x_{13}\}, B(X_{93}) = \{c\}, B(X_{94}) = 0.
 \end{aligned}$$

Sehingga diperoleh diferensial himpunan dari masing-masing titik  $x_i$  untuk  $i = 1, 2, \dots, 17$  adalah :

$$\begin{aligned}
 \partial(X_1) &= |B(X_1)| - |X_1| = 1 - 1 = 0, & \partial(X_2) &= |B(X_2)| - |X_2| = 4 - 1 = 3, \\
 \partial(X_3) &= |B(X_3)| - |X_3| = 2 - 1 = 1, & \partial(X_4) &= |B(X_4)| - |X_4| = 2 - 2 = 0, \\
 \partial(X_5) &= |B(X_5)| - |X_5| = 1 - 2 = -1, & \partial(X_6) &= |B(X_6)| - |X_6| = 2 - 2 = 0, \\
 \partial(X_7) &= |B(X_7)| - |X_7| = 3 - 2 = 1, & \partial(X_8) &= |B(X_8)| - |X_8| = 5 - 2 = 3, \\
 \partial(X_9) &= |B(X_9)| - |X_9| = 6 - 2 = 4, & \partial(X_{10}) &= |B(X_{10})| - |X_{10}| = 5 - 2 = 3, \\
 \partial(X_{11}) &= |B(X_{11})| - |X_{11}| = 4 - 2 = 2, & \partial(X_{12}) &= |B(X_{12})| - |X_{12}| = 2 - 2 = 0, \\
 \partial(X_{13}) &= |B(X_{13})| - |X_{13}| = 3 - 2 = 1, & \partial(X_{14}) &= |B(X_{14})| - |X_{14}| = 4 - 2 = 2, \\
 \partial(X_{15}) &= |B(X_{15})| - |X_{15}| = 6 - 3 = 3, & \partial(X_{16}) &= |B(X_{16})| - |X_{16}| = 2 - 3 = -1, \\
 \partial(X_{17}) &= |B(X_{17})| - |X_{17}| = 3 - 3 = 0, & \partial(X_{18}) &= |B(X_{18})| - |X_{18}| = 4 - 3 = 1,
 \end{aligned}$$



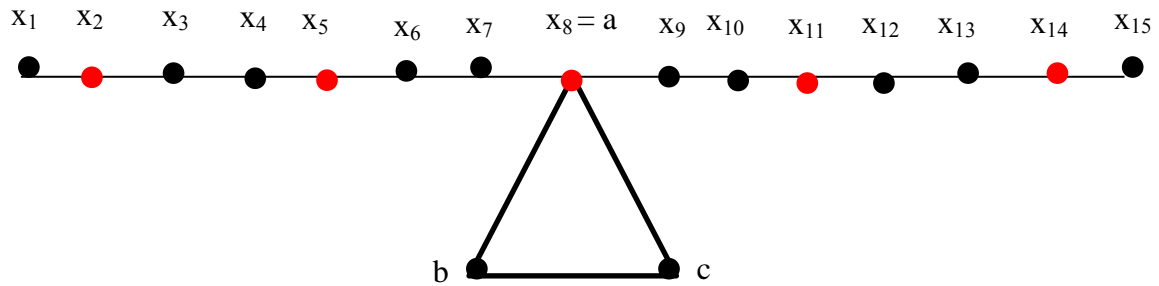
$$\begin{aligned}
 \partial (X_{19}) &= |B(X_{19})| - |X_{19}| = 5 - 3 = 2, & \partial (X_{20}) &= |B(X_{20})| - |X_{20}| = 6 - 3 = 3, \\
 \partial (X_{21}) &= |B(X_{21})| - |X_{21}| = 7 - 3 = 4, & \partial (X_{22}) &= |B(X_{22})| - |X_{22}| = 2 - 3 = -1, \\
 \partial (X_{23}) &= |B(X_{23})| - |X_{23}| = 7 - 3 = 4, & \partial (X_{24}) &= |B(X_{24})| - |X_{24}| = 2 - 3 = -1, \\
 \partial (X_{25}) &= |B(X_{25})| - |X_{25}| = 3 - 3 = 0, & \partial (X_{26}) &= |B(X_{26})| - |X_{26}| = 6 - 3 = 3, \\
 \partial (X_{27}) &= |B(X_{27})| - |X_{27}| = 1 - 3 = -2, & \partial (X_{28}) &= |B(X_{28})| - |X_{28}| = 2 - 3 = -1, \\
 \partial (X_{29}) &= |B(X_{29})| - |X_{29}| = 5 - 3 = 2, & \partial (X_{30}) &= |B(X_{30})| - |X_{30}| = 6 - 4 = 2, \\
 \partial (X_{31}) &= |B(X_{31})| - |X_{31}| = 7 - 4 = 3, & \partial (X_{32}) &= |B(X_{32})| - |X_{32}| = 8 - 4 = 4, \\
 \partial (X_{33}) &= |B(X_{33})| - |X_{33}| = 9 - 4 = 5, & \partial (X_{34}) &= |B(X_{34})| - |X_{34}| = 9 - 4 = 5, \\
 \partial (X_{35}) &= |B(X_{35})| - |X_{35}| = 8 - 4 = 4, & \partial (X_{36}) &= |B(X_{36})| - |X_{36}| = 6 - 4 = 2, \\
 \partial (X_{37}) &= |B(X_{37})| - |X_{37}| = 7 - 4 = 3, & \partial (X_{38}) &= |B(X_{38})| - |X_{38}| = 1 - 5 = -4, \\
 \partial (X_{39}) &= |B(X_{39})| - |X_{39}| = 10 - 5 = 5, & \partial (X_{40}) &= |B(X_{40})| - |X_{40}| = 10 - 5 = 5, \\
 \partial (X_{41}) &= |B(X_{41})| - |X_{41}| = 10 - 5 = 5, & \partial (X_{42}) &= |B(X_{42})| - |X_{42}| = 7 - 5 = 2, \\
 \partial (X_{43}) &= |B(X_{43})| - |X_{43}| = 9 - 5 = 4, & \partial (X_{44}) &= |B(X_{44})| - |X_{44}| = 10 - 6 = 4, \\
 \partial (X_{45}) &= |B(X_{45})| - |X_{45}| = 8 - 6 = 2, & \partial (X_{46}) &= |B(X_{46})| - |X_{46}| = 7 - 6 = 1, \\
 \partial (X_{47}) &= |B(X_{47})| - |X_{47}| = 8 - 6 = 2, & \partial (X_{48}) &= |B(X_{48})| - |X_{48}| = 8 - 6 = 2, \\
 \partial (X_{49}) &= |B(X_{49})| - |X_{49}| = 9 - 6 = 3, & \partial (X_{50}) &= |B(X_{50})| - |X_{50}| = 8 - 7 = 1, \\
 \partial (X_{51}) &= |B(X_{51})| - |X_{51}| = 8 - 7 = 1, & \partial (X_{52}) &= |B(X_{52})| - |X_{52}| = 8 - 7 = 1, \\
 \partial (X_{53}) &= |B(X_{53})| - |X_{53}| = 8 - 7 = 1, & \partial (X_{54}) &= |B(X_{54})| - |X_{54}| = 8 - 7 = 1, \\
 \partial (X_{55}) &= |B(X_{55})| - |X_{55}| = 7 - 6 = 1, & \partial (X_{56}) &= |B(X_{56})| - |X_{56}| = 7 - 8 = -1, \\
 \partial (X_{57}) &= |B(X_{57})| - |X_{57}| = 7 - 8 = -1, & \partial (X_{58}) &= |B(X_{58})| - |X_{58}| = 7 - 8 = -1, \\
 \partial (X_{59}) &= |B(X_{59})| - |X_{59}| = 2 - 8 = -6, & \partial (X_{60}) &= |B(X_{60})| - |X_{60}| = 7 - 8 = -1, \\
 \partial (X_{61}) &= |B(X_{61})| - |X_{61}| = 7 - 8 = -1, & \partial (X_{62}) &= |B(X_{62})| - |X_{62}| = 1 - 9 = -8, \\
 \partial (X_{63}) &= |B(X_{63})| - |X_{63}| = 6 - 9 = -3, & \partial (X_{64}) &= |B(X_{64})| - |X_{64}| = 6 - 9 = -3, \\
 \partial (X_{65}) &= |B(X_{65})| - |X_{65}| = 6 - 9 = -3, & \partial (X_{66}) &= |B(X_{66})| - |X_{66}| = 6 - 9 = -3, \\
 \partial (X_{67}) &= |B(X_{67})| - |X_{67}| = 6 - 9 = -3, & \partial (X_{68}) &= |B(X_{68})| - |X_{68}| = 5 - 10 = -5, \\
 \partial (X_{69}) &= |B(X_{69})| - |X_{69}| = 5 - 10 = -5, & \partial (X_{70}) &= |B(X_{70})| - |X_{70}| = 5 - 10 = -5, \\
 \partial (X_{71}) &= |B(X_{71})| - |X_{71}| = 5 - 10 = -5, & \partial (X_{72}) &= |B(X_{72})| - |X_{72}| = 5 - 10 = -5, \\
 \partial (X_{73}) &= |B(X_{73})| - |X_{73}| = 5 - 10 = -5, & \partial (X_{74}) &= |B(X_{74})| - |X_{74}| = 4 - 11 = -7, \\
 \partial (X_{75}) &= |B(X_{75})| - |X_{75}| = 1 - 11 = -10, & \partial (X_{76}) &= |B(X_{76})| - |X_{76}| = 4 - 11 = -7, \\
 \partial (X_{77}) &= |B(X_{77})| - |X_{77}| = 4 - 11 = -7, & \partial (X_{78}) &= |B(X_{78})| - |X_{78}| = 4 - 11 = -7,
 \end{aligned}$$

$$\begin{aligned} \partial (X_{79}) &= |B(X_{79})| - |X_{79}| = 4 - 11 = -7, & \partial (X_{80}) &= |B(X_{80})| - |X_{80}| = 3 - 12 = -9, \\ \partial (X_{81}) &= |B(X_{81})| - |X_{81}| = 3 - 12 = -9, & \partial (X_{82}) &= |B(X_{82})| - |X_{82}| = 3 - 12 = -9, \\ \partial (X_{83}) &= |B(X_{83})| - |X_{83}| = 3 - 12 = -9, & \partial (X_{84}) &= |B(X_{84})| - |X_{84}| = 3 - 12 = -9, \\ \partial (X_{85}) &= |B(X_{85})| - |X_{85}| = 3 - 12 = -9, & \partial (X_{86}) &= |B(X_{86})| - |X_{86}| = 2 - 13 = -11, \\ \partial (X_{87}) &= |B(X_{87})| - |X_{87}| = 1 - 13 = -12, & \partial (X_{88}) &= |B(X_{88})| - |X_{88}| = 2 - 13 = -11, \\ \partial (X_{89}) &= |B(X_{89})| - |X_{89}| = 2 - 13 = -11, & \partial (X_{90}) &= |B(X_{90})| - |X_{90}| = 2 - 13 = -11, \\ \partial (X_{91}) &= |B(X_{91})| - |X_{91}| = 1 - 14 = -13, & \partial (X_{92}) &= |B(X_{92})| - |X_{92}| = 1 - 14 = -13, \\ \partial (X_{93}) &= |B(X_{93})| - |X_{93}| = 1 - 14 = -13, & \partial (X_{94}) &= |B(X_{94})| - |X_{94}| = 0 - 15 = -15. \end{aligned}$$

Maka diferensial dari graf

$$\text{Amal}(P_{13}; C_3, x_7; a) = \max \{5, 4, 3, 2, 1, 0, -1, -2, -3, -4, -5, -6, -7, -8, -9, -10, -11, -12, -13, -15\} = 5.$$

- Untuk  $n = 15 \rightarrow \text{Amal}(P_{15}; C_3, x_8; a)$ .



Gambar Graf Amal  $(P_{15}; C_3, x_8; a)$ .

Diketahui :

$$V(\text{Amal}(P_{15}; C_3, x_8; a)) = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, b, c\}.$$

Pilih :

$$\begin{aligned} X_1 &= \{x_1\}, X_2 = \{x_8\}, X_3 = \{x_{10}\}, X_4 = \{x_1, x_{15}\}, X_5 = \{x_1, x_3\}, X_6 = \{x_1, x_2\}, X_7 = \{x_1, x_5\}, \\ X_8 &= \{x_1, x_8\}, X_9 = \{x_2, x_8\}, X_{10} = \{x_6, x_8\}, X_{11} = \{x_7, x_8\}, X_{12} = \{x_2, x_3\}, X_{13} = \{x_2, x_4\}, \\ X_{14} &= \{x_2, x_5\}, X_{15} = \{x_1, x_8, x_{15}\}, X_{16} = \{x_1, x_2, x_{15}\}, X_{17} = \{x_1, x_3, x_{15}\}, X_{18} = \{x_1, x_4, x_{15}\}, \\ X_{19} &= \{x_1, x_2, x_8\}, X_{20} = \{x_1, x_3, x_8\}, X_{21} = \{x_1, x_4, x_8\}, X_{22} = \{x_2, x_3, x_8\}, X_{23} = \{x_2, x_4, x_8\}, \\ X_{24} &= \{x_2, x_5, x_8\}, X_{25} = \{x_2, x_3, x_4\}, X_{26} = \{x_2, x_3, x_5\}, X_{27} = \{x_2, x_3, x_6\}, X_{28} = \{x_2, x_4, x_7\}, \\ X_{29} &= \{x_2, x_5, x_9\}, X_{30} = \{x_1, x_2, x_3\}, X_{31} = \{x_1, x_2, x_4\}, X_{32} = \{x_1, x_2, x_5\}, X_{33} = \{x_1, x_3, x_6\}, \\ X_{34} &= \{x_1, x_4, x_7\}, X_{35} = \{x_1, x_4, x_8, x_{15}\}, X_{36} = \{x_1, x_4, x_8, x_{11}\}, X_{37} = \{x_2, x_5, x_8, x_{11}\}, \\ X_{38} &= \{x_2, x_5, x_9, x_{12}\}, X_{39} = \{x_1, x_5, x_9, x_{15}\}, X_{40} = \{x_1, x_5, x_9, x_{14}\}, X_{41} = \{x_1, x_4, x_7, x_{10}, x_{14}\}, \\ X_{42} &= \{x_2, x_5, x_8, x_{11}, x_{14}\}, X_{43} = \{x_1, x_5, x_8, x_{11}, x_{14}\}, X_{44} = \{x_1, x_5, x_8, x_{11}, x_{15}\}, \\ X_{45} &= \{x_1, x_4, x_7, x_{11}, x_{15}\}, X_{46} = \{x_2, x_5, x_{11}, x_{14}, c\}, X_{47} = \{x_2, x_5, x_7, x_{11}, x_{14}, c\}, \end{aligned}$$

$$\begin{aligned}
 X_{48} &= \{x_1, x_4, x_7, x_{11}, x_{14}, c\}, X_{49} = \{x_1, x_4, x_7, x_{12}, x_{15}, c\}, X_{50} = \{x_2, x_5, x_8, x_{11}, x_{14}, c\}, \\
 X_{51} &= \{x_1, x_5, x_8, x_{11}, x_{14}, c\}, X_{52} = \{x_1, x_5, x_8, x_{11}, x_{15}, c\}, X_{53} = \{x_1, x_3, x_5, x_7, x_{14}, c\}, \\
 X_{54} &= \{x_2, x_5, x_7, x_8, x_{11}, x_{14}, c\}, X_{55} = \{x_1, x_4, x_7, x_{10}, x_{13}, x_{15}, c\}, \\
 X_{56} &= \{x_1, x_4, x_7, x_8, x_{11}, x_{14}, c\}, X_{57} = \{x_1, x_4, x_7, x_8, x_{12}, x_{15}, c\}, \\
 X_{58} &= \{x_2, x_5, x_7, x_{10}, x_{12}, x_{15}, c\}, X_{59} = \{x_2, x_5, x_7, x_{10}, x_{12}, x_{13}, x_{15}, c\}, \\
 X_{60} &= \{x_1, x_3, x_5, x_7, x_{10}, x_{12}, x_{15}, c\}, X_{61} = \{x_2, x_3, x_5, x_7, x_{10}, x_{12}, x_{14}, c\}, \\
 X_{62} &= \{x_2, x_5, x_7, x_8, x_{10}, x_{12}, x_{14}, c\}, X_{63} = \{x_2, x_5, x_7, x_8, x_{10}, x_{12}, x_{15}, c\}, \\
 X_{64} &= \{x_1, x_4, x_6, x_8, x_{10}, x_{12}, x_{15}, c\}, X_{65} = \{x_2, x_4, x_6, x_7, x_{10}, x_{12}, x_{14}, b, c\}, \\
 X_{66} &= \{x_2, x_4, x_6, x_7, x_{10}, x_{12}, x_{15}, b, c\}, X_{67} = \{x_2, x_4, x_6, x_8, x_{10}, x_{12}, x_{14}, b, c\}, \\
 X_{68} &= \{x_1, x_2, x_4, x_6, x_{10}, x_{12}, x_{15}, b, c\}, X_{69} = \{x_2, x_4, x_6, x_8, x_{10}, x_{12}, x_{15}, b, c\}, \\
 X_{70} &= \{x_1, x_2, x_4, x_6, x_8, x_{10}, x_{12}, x_{15}, c\}, X_{71} = \{x_2, x_3, x_4, x_6, x_{10}, x_{12}, x_{13}, x_{14}, b, c\}, \\
 X_{72} &= \{x_2, x_3, x_4, x_6, x_{10}, x_{12}, x_{13}, x_{15}, b, c\}, X_{73} = \{x_2, x_3, x_4, x_6, x_8, x_{10}, x_{12}, x_{13}, b, c\}, \\
 X_{74} &= \{x_2, x_3, x_4, x_5, x_8, x_9, x_{10}, x_{15}, b, c\}, X_{75} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_9, x_{15}, b, c\}, \\
 X_{76} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_8, x_{15}, b, c\}, X_{77} = \{x_2, x_3, x_4, x_5, x_6, x_7, x_9, x_{10}, x_{11}, b, c\}, \\
 X_{78} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_9, x_{10}, b, c\}, X_{79} = \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, b, c\}, \\
 X_{80} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_9, x_{15}, b, c\}, X_{81} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, b, c\}, \\
 X_{82} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_{14}, b, c\}, X_{83} = \{x_2, x_3, x_4, x_5, x_6, x_7, x_9, x_{10}, x_{11}, x_{12}, b, c\}, \\
 X_{84} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_9, x_{10}, x_{11}, b, c\}, X_{85} = \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, b, c\}, \\
 X_{86} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_9, x_{10}, x_{15}, b, c\}, X_{87} = \{x_2, x_3, x_4, x_5, x_6, x_7, x_9, x_{10}, x_{11}, x_{12}, x_{13}, b, c\}, \\
 X_{88} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{15}, b, c\}, \\
 X_{89} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_9, x_{10}, x_{11}, x_{12}, x_{13}, b, c\}, \\
 X_{90} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_9, x_{10}, x_{11}, x_{12}, b, c\}, \\
 X_{91} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, b, c\}, \\
 X_{92} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_9, x_{10}, x_{11}, x_{15}, b, c\}, \\
 X_{93} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, b, c\}, \\
 X_{94} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{15}, b, c\}, \\
 X_{95} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, b, c\}, \\
 X_{96} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_9, x_{10}, x_{11}, x_{12}, x_{13}, b, c\}, \\
 X_{97} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, b, c\}, \\
 X_{98} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_9, x_{10}, x_{11}, x_{12}, b, c\}, \\
 X_{99} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, b, c\}, \\
 X_{100} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{15}, b, c\},
 \end{aligned}$$

$$X_{101} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, b, c\},$$

$$X_{102} = \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, b, c\},$$

$$X_{103} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{15}, b, c\},$$

$$X_{104} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, b, c\},$$

$$X_{105} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, b, c\},$$

$$X_{106} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, b, c\}.$$

Maka tetangga dari masing-masing titik  $X_i$  untuk  $i = 1, 2, \dots, 106$  adalah :

$$B(X_1) = \{x_2\}, B(X_2) = \{x_7, x_9, b, c\}, B(X_3) = \{x_9, x_{11}\}, B(X_4) = \{x_3, x_{14}\}, B(X_5) = \{x_2, x_4\},$$

$$B(X_6) = \{x_3\}, B(X_7) = \{x_2, x_4, x_6\}, B(X_8) = \{x_2, x_7, x_9, b, c\}, B(X_9) = \{x_1, x_3, x_7, x_9, b, c\},$$

$$B(X_{10}) = \{x_5, x_7, x_9, b, c\}, B(X_{11}) = \{x_9, b, c\}, B(X_{12}) = \{x_1, x_4\}, B(X_{13}) = \{x_1, x_3, x_5\},$$

$$B(X_{14}) = \{x_1, x_3, x_4, x_6\}, B(X_{15}) = \{x_2, x_7, x_9, x_{14}, b, c\}, B(X_{16}) = \{x_3, x_{14}\},$$

$$B(X_{17}) = \{x_2, x_4, x_{14}\}, B(X_{18}) = \{x_2, x_3, x_5, x_{12}\}, B(X_{19}) = \{x_3, x_7, x_9, b, c\},$$

$$B(X_{20}) = \{x_2, x_4, x_7, x_9, b, c\}, B(X_{21}) = \{x_2, x_3, x_5, x_7, x_9, b, c\}, B(X_{22}) = \{x_1, x_4, x_7, x_9, b, c\},$$

$$B(X_{23}) = \{x_1, x_3, x_5, x_7, x_9, b, c\}, B(X_{24}) = \{x_1, x_3, x_4, x_6, x_7, x_9, b, c\}, B(X_{25}) = \{x_1, x_5\},$$

$$B(X_{26}) = \{x_1, x_4, x_6\}, B(X_{27}) = \{x_1, x_4, x_5, x_7\}, B(X_{28}) = \{x_1, x_3, x_5, x_6, x_8\},$$

$$B(X_{29}) = \{x_1, x_3, x_4, x_6, x_8, x_{10}\}, B(X_{30}) = \{x_4\}, B(X_{31}) = \{x_3, x_5\}, B(X_{32}) = \{x_3, x_4, x_6\},$$

$$B(X_{33}) = \{x_2, x_4, x_5, x_6\}, B(X_{34}) = \{x_2, x_3, x_5, x_6, x_8\}, B(X_{35}) = \{x_2, x_3, x_5, x_7, x_9, x_{14}, b, c\},$$

$$B(X_{36}) = \{x_2, x_3, x_5, x_7, x_9, x_{10}, x_{12}, b, c\}, B(X_{37}) = \{x_1, x_3, x_4, x_6, x_7, x_9, x_{10}, x_{12}, b, c\},$$

$$B(X_{38}) = \{x_1, x_3, x_4, x_6, x_7, x_8, x_{10}, x_{11}, x_{13}\}, B(X_{39}) = \{x_2, x_4, x_6, x_8, x_{10}, x_{14}\},$$

$$B(X_{40}) = \{x_2, x_4, x_6, x_8, x_{10}, x_{13}, x_{15}\}, B(X_{41}) = \{x_2, x_3, x_5, x_6, x_8, x_9, x_{11}, x_{13}, x_{15}\},$$

$$B(X_{42}) = \{x_1, x_3, x_4, x_6, x_7, x_9, x_{10}, x_{12}, x_{13}, x_{15}, b, c\},$$

$$B(X_{43}) = \{x_2, x_4, x_6, x_7, x_9, x_{10}, x_{12}, x_{13}, x_{15}, b, c\},$$

$$B(X_{44}) = \{x_2, x_4, x_6, x_7, x_9, x_{10}, x_{12}, x_{14}, b, c\}, B(X_{45}) = \{x_2, x_3, x_5, x_6, x_8, x_{10}, x_{12}, x_{14}\},$$

$$B(X_{46}) = \{x_1, x_3, x_4, x_6, x_8, x_{10}, x_{12}, x_{13}, x_{15}, b\},$$

$$B(X_{47}) = \{x_1, x_3, x_4, x_6, x_8, x_{10}, x_{12}, x_{13}, x_{15}, b\},$$

$$B(X_{48}) = \{x_2, x_3, x_5, x_6, x_8, x_{10}, x_{12}, x_{13}, x_{15}, b\}, B(X_{49}) = \{x_2, x_3, x_5, x_6, x_8, x_{11}, x_{13}, x_{14}, b\},$$

$$B(X_{50}) = \{x_1, x_3, x_4, x_6, x_7, x_9, x_{10}, x_{12}, x_{13}, x_{15}, b\},$$

$$B(X_{51}) = \{x_2, x_4, x_6, x_7, x_9, x_{10}, x_{12}, x_{13}, x_{15}, b\}, B(X_{52}) = \{x_2, x_4, x_6, x_7, x_9, x_{10}, x_{12}, x_{14}, b\},$$

$$B(X_{53}) = \{x_2, x_4, x_6, x_8, x_{10}, x_{12}, x_{13}, x_{15}, b\}, B(X_{54}) = \{x_1, x_3, x_4, x_6, x_9, x_{10}, x_{12}, x_{13}, x_{15}, b\},$$

$$B(X_{55}) = \{x_2, x_3, x_5, x_6, x_8, x_9, x_{11}, x_{12}, x_{14}, b\}, B(X_{56}) = \{x_2, x_3, x_5, x_6, x_9, x_{10}, x_{12}, x_{13}, x_{15}, b\},$$

$$B(X_{57}) = \{x_2, x_3, x_5, x_6, x_9, x_{11}, x_{13}, x_{14}, b\}, B(X_{58}) = \{x_1, x_3, x_4, x_6, x_8, x_9, x_{11}, x_{13}, x_{14}, b\},$$

$$B(X_{59}) = \{x_1, x_3, x_4, x_6, x_8, x_9, x_{11}, x_{14}, b\}, B(X_{60}) = \{x_2, x_4, x_6, x_8, x_9, x_{11}, x_{13}, x_{14}, b\},$$

$$\begin{aligned}
 B(X_{61}) &= \{x_1, x_4, x_6, x_8, x_9, x_{11}, x_{13}, x_{15}, b\}, & B(X_{62}) &= \{x_1, x_3, x_4, x_6, x_9, x_{11}, x_{13}, x_{15}, b\}, \\
 B(X_{63}) &= \{x_1, x_3, x_4, x_6, x_9, x_{11}, x_{13}, x_{14}, b\}, & B(X_{64}) &= \{x_2, x_3, x_5, x_7, x_9, x_{11}, x_{13}, x_{14}, b\}, \\
 B(X_{65}) &= \{x_1, x_3, x_5, x_8, x_9, x_{11}, x_{13}, x_{15}\}, & B(X_{66}) &= \{x_1, x_3, x_5, x_8, x_9, x_{11}, x_{13}, x_{14}\}, \\
 B(X_{67}) &= \{x_1, x_3, x_5, x_7, x_9, x_{11}, x_{13}, x_{15}\}, & B(X_{68}) &= \{x_3, x_5, x_7, x_8, x_9, x_{11}, x_{13}, x_{14}\}, \\
 B(X_{69}) &= \{x_1, x_3, x_5, x_7, x_9, x_{11}, x_{13}, x_{14}\}, & B(X_{70}) &= \{x_3, x_5, x_7, x_9, x_{11}, x_{13}, x_{14}, b\}, \\
 B(X_{71}) &= \{x_1, x_5, x_7, x_8, x_9, x_{11}, x_{15}\}, & B(X_{72}) &= \{x_1, x_5, x_7, x_8, x_9, x_{11}, x_{14}\}, \\
 B(X_{73}) &= \{x_1, x_5, x_7, x_9, x_{11}, x_{14}\}, & B(X_{74}) &= \{x_1, x_6, x_7, x_{11}, x_{14}\}, & B(X_{75}) &= \{x_7, x_8, x_{10}, x_{14}\}, \\
 B(X_{76}) &= \{x_7, x_9, x_{14}\}, & B(X_{77}) &= \{x_1, x_8, x_{12}\}, & B(X_{78}) &= \{x_8, x_{11}\}, & B(X_{79}) &= \{x_1, x_{11}\}, \\
 B(X_{80}) &= \{x_8, x_{10}, x_{14}\}, & B(X_{81}) &= \{x_{10}\}, & B(X_{82}) &= \{x_9, x_{14}\}, & B(X_{83}) &= \{x_1, x_8, x_{13}\}, \\
 B(X_{84}) &= \{x_8, x_{12}\}, & B(X_{85}) &= \{x_1, x_{12}\}, & B(X_{86}) &= \{x_8, x_{11}, x_{14}\}, & B(X_{87}) &= \{x_{11}\}, \\
 B(X_{88}) &= \{x_{10}, x_{14}\}, & B(X_{89}) &= \{x_1, x_8, x_{14}\}, & B(X_{90}) &= \{x_8, x_{13}\}, & B(X_{91}) &= \{x_1, x_{13}\}, \\
 B(X_{92}) &= \{x_8, x_{12}, x_{14}\}, & B(X_{93}) &= \{x_{12}\}, & B(X_{94}) &= \{x_1, x_{14}\}, & B(X_{95}) &= \{x_1, x_8, x_{15}\}, \\
 B(X_{96}) &= \{x_8, x_{14}\}, & B(X_{97}) &= \{x_1, x_{14}\}, & B(X_{98}) &= \{x_8, x_{13}, x_{14}\}, & B(X_{99}) &= \{x_{13}\}, \\
 B(X_{100}) &= \{x_{12}, x_{14}\}, & B(X_{101}) &= \{x_8, x_{15}\}, & B(X_{102}) &= \{x_1, x_{15}\}, & B(X_{103}) &= \{x_8, x_{14}\}, \\
 B(X_{104}) &= \{x_{14}\}, & B(X_{105}) &= \{x_8\}, & B(X_{106}) &= 0.
 \end{aligned}$$

Sehingga diperoleh diferensial himpunan dari masing-masing titik  $x_i$  untuk  $i = 1, 2, \dots, 106$  adalah :

$$\begin{aligned}
 \partial(X_1) &= |B(X_1)| - |X_1| = 1 - 1 = 0, & \partial(X_2) &= |B(X_2)| - |X_2| = 4 - 1 = 3, \\
 \partial(X_3) &= |B(X_3)| - |X_3| = 2 - 1 = 1, & \partial(X_4) &= |B(X_4)| - |X_4| = 2 - 2 = 0, \\
 \partial(X_5) &= |B(X_5)| - |X_5| = 2 - 2 = 0, & \partial(X_6) &= |B(X_6)| - |X_6| = 1 - 2 = -1, \\
 \partial(X_7) &= |B(X_7)| - |X_7| = 3 - 2 = 1, & \partial(X_8) &= |B(X_8)| - |X_8| = 5 - 2 = 3, \\
 \partial(X_9) &= |B(X_9)| - |X_9| = 6 - 2 = 4, & \partial(X_{10}) &= |B(X_{10})| - |X_{10}| = 5 - 2 = 3, \\
 \partial(X_{11}) &= |B(X_{11})| - |X_{11}| = 3 - 2 = 1, & \partial(X_{12}) &= |B(X_{12})| - |X_{12}| = 2 - 2 = 0, \\
 \partial(X_{13}) &= |B(X_{13})| - |X_{13}| = 3 - 2 = 1, & \partial(X_{14}) &= |B(X_{14})| - |X_{14}| = 4 - 2 = 2, \\
 \partial(X_{15}) &= |B(X_{15})| - |X_{15}| = 6 - 3 = 3, & \partial(X_{16}) &= |B(X_{16})| - |X_{16}| = 2 - 3 = -1, \\
 \partial(X_{17}) &= |B(X_{17})| - |X_{17}| = 3 - 3 = 0, & \partial(X_{18}) &= |B(X_{18})| - |X_{18}| = 4 - 3 = 1, \\
 \partial(X_{19}) &= |B(X_{19})| - |X_{19}| = 5 - 3 = 2, & \partial(X_{20}) &= |B(X_{20})| - |X_{20}| = 6 - 3 = 3, \\
 \partial(X_{21}) &= |B(X_{21})| - |X_{21}| = 7 - 3 = 4, & \partial(X_{22}) &= |B(X_{22})| - |X_{22}| = 6 - 3 = 3, \\
 \partial(X_{23}) &= |B(X_{23})| - |X_{23}| = 7 - 3 = 4, & \partial(X_{24}) &= |B(X_{24})| - |X_{24}| = 8 - 3 = 5, \\
 \partial(X_{25}) &= |B(X_{25})| - |X_{25}| = 2 - 3 = -1, & \partial(X_{26}) &= |B(X_{26})| - |X_{26}| = 3 - 3 = 0, \\
 \partial(X_{27}) &= |B(X_{27})| - |X_{27}| = 4 - 3 = 1, & \partial(X_{28}) &= |B(X_{28})| - |X_{28}| = 5 - 3 = 2,
 \end{aligned}$$

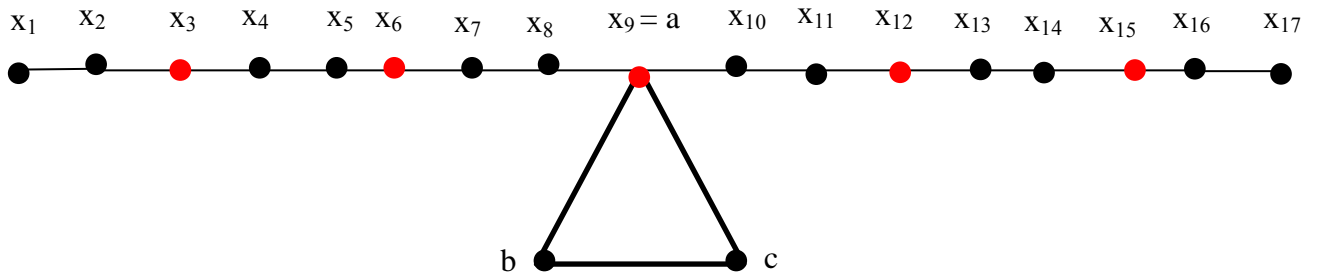
$$\begin{aligned}
\partial (X_{29}) &= |B(X_{29})| - |X_{29}| = 6 - 3 = 3, & \partial (X_{30}) &= |B(X_{30})| - |X_{30}| = 1 - 3 = -2, \\
\partial (X_{31}) &= |B(X_{31})| - |X_{31}| = 2 - 3 = -1, & \partial (X_{32}) &= |B(X_{32})| - |X_{32}| = 3 - 3 = 0, \\
\partial (X_{33}) &= |B(X_{33})| - |X_{33}| = 4 - 3 = 1, & \partial (X_{34}) &= |B(X_{34})| - |X_{34}| = 5 - 3 = 2, \\
\partial (X_{35}) &= |B(X_{35})| - |X_{35}| = 8 - 4 = 4, & \partial (X_{36}) &= |B(X_{36})| - |X_{36}| = 9 - 4 = 5, \\
\partial (X_{37}) &= |B(X_{37})| - |X_{37}| = 10 - 4 = 6, & \partial (X_{38}) &= |B(X_{38})| - |X_{38}| = 8 - 4 = 4, \\
\partial (X_{39}) &= |B(X_{39})| - |X_{39}| = 6 - 4 = 2, & \partial (X_{40}) &= |B(X_{40})| - |X_{40}| = 7 - 4 = 3, \\
\partial (X_{41}) &= |B(X_{41})| - |X_{41}| = 9 - 5 = 4, & \partial (X_{42}) &= |B(X_{42})| - |X_{42}| = 12 - 5 = 7, \\
\partial (X_{43}) &= |B(X_{43})| - |X_{43}| = 11 - 5 = 6, & \partial (X_{44}) &= |B(X_{44})| - |X_{44}| = 10 - 5 = 5, \\
\partial (X_{45}) &= |B(X_{45})| - |X_{45}| = 8 - 5 = 3, & \partial (X_{46}) &= |B(X_{46})| - |X_{46}| = 10 - 5 = 5, \\
\partial (X_{47}) &= |B(X_{47})| - |X_{47}| = 10 - 6 = 4, & \partial (X_{48}) &= |B(X_{48})| - |X_{48}| = 10 - 6 = 4, \\
\partial (X_{49}) &= |B(X_{49})| - |X_{49}| = 9 - 6 = 3, & \partial (X_{50}) &= |B(X_{50})| - |X_{50}| = 11 - 6 = 5, \\
\partial (X_{51}) &= |B(X_{51})| - |X_{51}| = 10 - 6 = 4, & \partial (X_{52}) &= |B(X_{52})| - |X_{52}| = 9 - 6 = 3, \\
\partial (X_{53}) &= |B(X_{53})| - |X_{53}| = 9 - 7 = 2, & \partial (X_{54}) &= |B(X_{54})| - |X_{54}| = 10 - 7 = 3, \\
\partial (X_{55}) &= |B(X_{55})| - |X_{55}| = 10 - 7 = 3, & \partial (X_{56}) &= |B(X_{56})| - |X_{56}| = 10 - 7 = 3, \\
\partial (X_{57}) &= |B(X_{57})| - |X_{57}| = 9 - 7 = 2, & \partial (X_{58}) &= |B(X_{58})| - |X_{58}| = 10 - 7 = 3, \\
\partial (X_{59}) &= |B(X_{59})| - |X_{59}| = 9 - 8 = 1, & \partial (X_{60}) &= |B(X_{60})| - |X_{60}| = 9 - 8 = 1, \\
\partial (X_{61}) &= |B(X_{61})| - |X_{61}| = 9 - 8 = 1, & \partial (X_{62}) &= |B(X_{62})| - |X_{62}| = 9 - 8 = 1, \\
\partial (X_{63}) &= |B(X_{63})| - |X_{63}| = 9 - 8 = 1, & \partial (X_{64}) &= |B(X_{64})| - |X_{64}| = 9 - 8 = 1, \\
\partial (X_{65}) &= |B(X_{65})| - |X_{65}| = 8 - 9 = -1, & \partial (X_{66}) &= |B(X_{66})| - |X_{66}| = 8 - 9 = -1, \\
\partial (X_{67}) &= |B(X_{67})| - |X_{67}| = 8 - 9 = -1, & \partial (X_{68}) &= |B(X_{68})| - |X_{68}| = 8 - 9 = -1, \\
\partial (X_{69}) &= |B(X_{69})| - |X_{69}| = 8 - 9 = -1, & \partial (X_{70}) &= |B(X_{70})| - |X_{70}| = 8 - 9 = -1, \\
\partial (X_{71}) &= |B(X_{71})| - |X_{71}| = 7 - 10 = -3, & \partial (X_{72}) &= |B(X_{72})| - |X_{72}| = 7 - 10 = -3, \\
\partial (X_{73}) &= |B(X_{73})| - |X_{73}| = 6 - 10 = -4, & \partial (X_{74}) &= |B(X_{74})| - |X_{74}| = 5 - 10 = -5, \\
\partial (X_{75}) &= |B(X_{75})| - |X_{75}| = 4 - 10 = -6, & \partial (X_{76}) &= |B(X_{76})| - |X_{76}| = 3 - 10 = -7, \\
\partial (X_{77}) &= |B(X_{77})| - |X_{77}| = 3 - 11 = -8, & \partial (X_{78}) &= |B(X_{78})| - |X_{78}| = 2 - 11 = -9, \\
\partial (X_{79}) &= |B(X_{79})| - |X_{79}| = 2 - 11 = -9, & \partial (X_{80}) &= |B(X_{80})| - |X_{80}| = 3 - 11 = -8, \\
\partial (X_{81}) &= |B(X_{81})| - |X_{81}| = 1 - 11 = -10, & \partial (X_{82}) &= |B(X_{82})| - |X_{82}| = 2 - 11 = -9, \\
\partial (X_{83}) &= |B(X_{83})| - |X_{83}| = 3 - 12 = -9, & \partial (X_{84}) &= |B(X_{84})| - |X_{84}| = 2 - 12 = -10, \\
\partial (X_{85}) &= |B(X_{85})| - |X_{85}| = 2 - 12 = -10, & \partial (X_{86}) &= |B(X_{86})| - |X_{86}| = 3 - 12 = -9, \\
\partial (X_{87}) &= |B(X_{87})| - |X_{87}| = 1 - 12 = -11, & \partial (X_{88}) &= |B(X_{88})| - |X_{88}| = 2 - 12 = -10,
\end{aligned}$$

$$\begin{aligned} \partial (X_{89}) &= |B(X_{89})| - |X_{89}| = 3 - 13 = -10, & \partial (X_{90}) &= |B(X_{90})| - |X_{90}| = 2 - 13 = -11, \\ \partial (X_{91}) &= |B(X_{91})| - |X_{91}| = 2 - 13 = -11, & \partial (X_{92}) &= |B(X_{92})| - |X_{92}| = 3 - 13 = -10, \\ \partial (X_{93}) &= |B(X_{93})| - |X_{93}| = 1 - 13 = -12, & \partial (X_{94}) &= |B(X_{94})| - |X_{94}| = 2 - 13 = -11, \\ \partial (X_{95}) &= |B(X_{95})| - |X_{95}| = 3 - 14 = -11, & \partial (X_{96}) &= |B(X_{96})| - |X_{96}| = 2 - 14 = -12, \\ \partial (X_{97}) &= |B(X_{97})| - |X_{97}| = 2 - 14 = -12, & \partial (X_{98}) &= |B(X_{98})| - |X_{98}| = 3 - 14 = -11, \\ \partial (X_{99}) &= |B(X_{99})| - |X_{99}| = 1 - 14 = -13, & \partial (X_{100}) &= |B(X_{100})| - |X_{100}| = 2 - 14 = -12, \\ \partial (X_{101}) &= |B(X_{101})| - |X_{101}| = 2 - 15 = -13, & \partial (X_{102}) &= |B(X_{102})| - |X_{102}| = 2 - 15 = -13, \\ \partial (X_{103}) &= |B(X_{103})| - |X_{103}| = 2 - 15 = -13, & \partial (X_{104}) &= |B(X_{104})| - |X_{104}| = 1 - 15 = -14, \\ \partial (X_{105}) &= |B(X_{105})| - |X_{105}| = 1 - 16 = -15, & \partial (X_{106}) &= |B(X_{106})| - |X_{106}| = 0 - 17 = -17. \end{aligned}$$

Maka diferensial dari graf

$$\partial (\text{Amal} (P_{15};C_3,x_8;a)) = \max \{7, 6, 5, 4, 3, 2, 1, 0, -1, -2, -3, -4, -5, -6, -7, -8, -9, -10, -11, -12, -13, -14, -15, -17\} = 7.$$

- Untuk  $n=17 \rightarrow \text{Amal} (P_{17};C_3, x_9;a)$ .



Gambar Graf Amal  $(P_{17};C_3, x_9;a)$ .

Diketahui :

$$V(\text{Amal} (P_{17};C_3, x_9;a)) = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}, x_{17}, b, c\}$$

.

Pilih :

$$\begin{aligned} X_1 &= \{x_1\}, X_2 = \{x_9\}, X_3 = \{x_2\}, X_4 = \{x_1, x_{17}\}, X_5 = \{x_1, x_2\}, X_6 = \{x_1, x_3\}, X_7 = \{x_1, x_4\}, \\ X_8 &= \{x_1, x_9\}, X_9 = \{x_8, x_9\}, X_{10} = \{x_7, x_9\}, X_{11} = \{x_6, x_9\}, X_{12} = \{x_2, x_3\}, X_{13} = \{x_2, x_4\}, \\ X_{14} &= \{x_2, x_5\}, X_{15} = \{x_1, x_9, x_{17}\}, X_{16} = \{x_1, x_2, x_{17}\}, X_{17} = \{x_1, x_3, x_{17}\}, X_{18} = \{x_1, x_4, x_{17}\}, \\ X_{19} &= \{x_1, x_2, x_9\}, X_{20} = \{x_1, x_3, x_9\}, X_{21} = \{x_1, x_4, x_9\}, X_{22} = \{x_2, x_3, x_9\}, X_{23} = \{x_2, x_4, x_9\}, \\ X_{24} &= \{x_2, x_5, x_9\}, X_{25} = \{x_2, x_3, x_4\}, X_{26} = \{x_2, x_3, x_5\}, X_{27} = \{x_2, x_3, x_6\}, X_{28} = \{x_2, x_4, x_7\}, \\ X_{29} &= \{x_2, x_5, x_8\}, X_{30} = \{x_1, x_2, x_3\}, X_{31} = \{x_1, x_2, x_4\}, X_{32} = \{x_1, x_2, x_5\}, X_{33} = \{x_1, x_3, x_6\}, \\ X_{34} &= \{x_1, x_4, x_7\}, X_{35} = \{x_1, x_4, x_9, x_{17}\}, X_{36} = \{x_2, x_9, x_{13}, x_{16}\}, X_{37} = \{x_2, x_8, x_{13}, x_{16}\}, \\ X_{38} &= \{x_1, x_6, x_{13}, x_{16}\}, X_{39} = \{x_1, x_6, x_{10}, x_{13}, x_{16}\}, X_{40} = \{x_2, x_5, x_9, x_{12}, x_{16}\}, \end{aligned}$$

$$\begin{aligned}
 X_{41} &= \{x_3, x_6, x_9, x_{12}, x_{15}\}, X_{42} = \{x_1, x_3, x_5, x_9, x_{17}\}, X_{43} = \{x_1, x_3, x_5, x_{10}, x_{17}\}, \\
 X_{44} &= \{x_1, x_3, x_5, x_{13}, x_{16}\}, X_{45} = \{x_1, x_3, x_5, x_{10}, x_{13}, x_{16}\}, X_{46} = \{x_3, x_5, x_7, x_{10}, x_{13}, x_{16}\}, \\
 X_{47} &= \{x_3, x_5, x_7, x_{10}, x_{13}, x_{17}\}, X_{48} = \{x_3, x_5, x_7, x_9, x_{13}, x_{16}\}, X_{49} = \{x_1, x_5, x_7, x_9, x_{10}, x_{13}\}, \\
 X_{50} &= \{x_1, x_5, x_7, x_9, x_{13}, x_{17}\}, X_{51} = \{x_1, x_3, x_5, x_7, x_{10}, x_{12}, x_{14}\}, \\
 X_{52} &= \{x_3, x_5, x_7, x_9, x_{10}, x_{12}, x_{14}\}, X_{53} = \{x_1, x_3, x_5, x_7, x_{12}, x_{14}, x_{17}\}, \\
 X_{54} &= \{x_1, x_3, x_5, x_7, x_9, x_{12}, x_{14}\}, X_{55} = \{x_1, x_3, x_5, x_7, x_9, x_{12}, x_{17}\}, \\
 X_{56} &= \{x_3, x_5, x_7, x_{10}, x_{12}, x_{14}, x_{16}\}, X_{57} = \{x_3, x_5, x_7, x_8, x_{10}, x_{12}, x_{14}, x_{16}\}, \\
 X_{58} &= \{x_1, x_3, x_5, x_7, x_8, x_{10}, x_{12}, x_{14}\}, X_{59} = \{x_3, x_5, x_7, x_8, x_9, x_{10}, x_{12}, x_{14}\}, \\
 X_{60} &= \{x_1, x_2, x_3, x_5, x_7, x_8, x_{10}, x_{17}\}, X_{61} = \{x_1, x_2, x_3, x_5, x_7, x_8, x_9, x_{10}\}, \\
 X_{62} &= \{x_1, x_2, x_3, x_5, x_7, x_8, x_9, x_{17}\}, X_{63} = \{x_1, x_3, x_5, x_7, x_8, x_{10}, x_{12}, x_{14}, x_{15}\}, \\
 X_{64} &= \{x_2, x_3, x_5, x_7, x_8, x_{10}, x_{12}, x_{14}, x_{15}\}, X_{65} = \{x_3, x_5, x_7, x_9, x_{10}, x_{12}, x_{14}, x_{15}\}, \\
 X_{66} &= \{x_1, x_2, x_3, x_4, x_5, x_7, x_8, x_{10}, x_{17}\}, X_{67} = \{x_1, x_2, x_3, x_4, x_7, x_8, x_9, x_{10}, x_{11}\}, \\
 X_{68} &= \{x_1, x_2, x_3, x_4, x_5, x_7, x_8, x_9, x_{17}\}, X_{69} = \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_{10}, x_{11}, x_{12}\}, \\
 X_{70} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_{10}, x_{11}\}, X_{71} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}\}, \\
 X_{72} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_{10}, x_{17}\}, X_{73} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}\}, \\
 X_{74} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{17}\}, X_{75} = \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}\}, \\
 X_{76} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_{10}, x_{11}, x_{12}\}, X_{77} = \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}\}, \\
 X_{78} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_{10}, x_{11}, x_{17}\}, X_{79} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}\}, \\
 X_{80} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{17}\}, X_{81} = \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}\}, \\
 X_{82} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_{10}, x_{11}, x_{12}, x_{13}\}, \\
 X_{83} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}\}, \\
 X_{84} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_{10}, x_{11}, x_{12}, x_{17}\}, \\
 X_{85} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}\}, \\
 X_{86} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{17}\}, \\
 X_{87} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}\}, \\
 X_{88} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}\}, \\
 X_{89} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}\}, \\
 X_{90} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_{10}, x_{11}, x_{12}, x_{13}, x_{17}\}, \\
 X_{91} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}\}, \\
 X_{92} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{17}\}, \\
 X_{93} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}\}, \\
 X_{94} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}\},
 \end{aligned}$$



$$\begin{aligned}
 X_{95} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}\}, \\
 X_{96} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{17}\}, \\
 X_{97} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}\}, \\
 X_{98} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_{10}, x_{11}, x_{12}, x_{13}, x_{17}\}, \\
 X_{99} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}, b\}, \\
 X_{100} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}\}, \\
 X_{101} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, b, c\}, \\
 X_{102} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, b, c\}, \\
 X_{103} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, b, c\}, \\
 X_{104} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{17}, b, c\}, \\
 X_{105} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}, b, c\}, \\
 X_{106} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}, b, c\}, \\
 X_{107} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}, x_{17}, b, c\}, \\
 X_{108} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{17}, b, c\}, \\
 X_{109} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}, b, c\}, \\
 X_{110} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}, x_{17}, b, c\}.
 \end{aligned}$$

Maka tetangga dari masing-masing titik  $x_i$  untuk  $i = 1, 2, \dots, 110$  adalah :

$$\begin{aligned}
 B(X_1) &= \{x_2\}, B(X_2) = \{x_8, x_{10}, b, c\}, B(X_3) = \{x_1, x_3\}, B(X_4) = \{x_2, x_{16}\}, B(X_5) = \{x_3\}, \\
 B(X_6) &= \{x_2, x_4\}, B(X_7) = \{x_2, x_3, x_5\}, B(X_8) = \{x_2, x_8, x_{10}, b, c\}, B(X_9) = \{x_7, x_{10}, b, c\}, \\
 B(X_{10}) &= \{x_6, x_8, x_{10}, b, c\}, B(X_{11}) = \{x_5, x_7, x_8, x_{10}, b, c\}, B(X_{12}) = \{x_1, x_4\}, \\
 B(X_{13}) &= \{x_1, x_3, x_5\}, B(X_{14}) = \{x_1, x_3, x_4, x_6\}, B(X_{15}) = \{x_2, x_8, x_{10}, x_{16}, b, c\}, \\
 B(X_{16}) &= \{x_3, x_{16}\}, B(X_{17}) = \{x_2, x_4, x_{16}\}, B(X_{18}) = \{x_2, x_3, x_5, x_{16}\}, \\
 B(X_{19}) &= \{x_3, x_8, x_{10}, b, c\}, B(X_{20}) = \{x_2, x_4, x_8, x_{10}, b, c\}, B(X_{21}) = \{x_2, x_3, x_5, x_8, x_{10}, b, c\}, \\
 B(X_{22}) &= \{x_1, x_4, x_8, x_{10}, b, c\}, B(X_{23}) = \{x_1, x_3, x_5, x_8, x_{10}, b, c\}, \\
 B(X_{24}) &= \{x_1, x_3, x_4, x_6, x_8, x_{10}, b, c\}, B(X_{25}) = \{x_1, x_5\}, B(X_{26}) = \{x_1, x_4, x_6\}, \\
 B(X_{27}) &= \{x_1, x_4, x_5, x_7\}, B(X_{28}) = \{x_1, x_3, x_5, x_6, x_8\}, B(X_{29}) = \{x_1, x_3, x_4, x_6, x_7, x_9\}, \\
 B(X_{30}) &= \{x_4\}, B(X_{31}) = \{x_3, x_5\}, B(X_{32}) = \{x_3, x_4, x_6\}, B(X_{33}) = \{x_2, x_4, x_5, x_7\}, \\
 B(X_{34}) &= \{x_2, x_3, x_5, x_6, x_8\}, B(X_{35}) = \{x_2, x_3, x_5, x_8, x_{10}, x_{16}, b, c\}, \\
 B(X_{36}) &= \{x_1, x_3, x_8, x_{10}, x_{12}, x_{14}, x_{15}, x_{17}, b, c\}, B(X_{37}) = \{x_1, x_3, x_7, x_9, x_{12}, x_{14}, x_{15}, x_{17}\}, \\
 B(X_{38}) &= \{x_2, x_5, x_7, x_{10}, x_{14}, x_{15}, x_{17}\}, B(X_{39}) = \{x_2, x_5, x_7, x_9, x_{11}, x_{12}, x_{14}, x_{15}, x_{17}\}, \\
 B(X_{40}) &= \{x_1, x_3, x_4, x_6, x_8, x_{10}, x_{11}, x_{13}, x_{15}, x_{17}, b, c\}, \\
 B(X_{41}) &= \{x_2, x_4, x_5, x_7, x_8, x_{10}, x_{11}, x_{13}, x_{14}, x_{16}, b, c\}, B(X_{42}) = \{x_2, x_4, x_6, x_8, x_{10}, x_{16}, b, c\},
 \end{aligned}$$

$$\begin{aligned}
 B(X_{43}) &= \{x_2, x_4, x_6, x_9, x_{11}, x_{16}\}, B(X_{44}) = \{x_2, x_4, x_6, x_{12}, x_{14}, x_{15}, x_{17}\}, \\
 B(X_{45}) &= \{x_2, x_4, x_6, x_9, x_{11}, x_{12}, x_{14}, x_{15}, x_{17}\}, B(X_{46}) = \{x_2, x_4, x_6, x_8, x_9, x_{11}, x_{12}, x_{14}, x_{15}, x_{17}\}, \\
 B(X_{47}) &= \{x_2, x_4, x_6, x_8, x_9, x_{11}, x_{12}, x_{14}, x_{15}, x_{16}\}, B(X_{48}) = \{x_2, x_4, x_6, x_8, x_{11}, x_{12}, x_{14}, b, c\}, \\
 B(X_{49}) &= \{x_2, x_4, x_6, x_8, x_{11}, x_{12}, x_{14}, b, c\}, B(X_{50}) = \{x_2, x_4, x_6, x_8, x_{10}, x_{12}, x_{14}, x_{16}\}, \\
 B(X_{51}) &= \{x_2, x_4, x_6, x_8, x_9, x_{11}, x_{13}, x_{15}\}, B(X_{52}) = \{x_2, x_4, x_6, x_8, x_{11}, x_{13}, x_{15}, x_{15}, b, c\}, \\
 B(X_{53}) &= \{x_2, x_4, x_6, x_8, x_{11}, x_{13}, x_{16}\}, B(X_{54}) = \{x_2, x_4, x_6, x_8, x_{10}, x_{11}, x_{13}, x_{15}, b, c\}, \\
 B(X_{55}) &= \{x_2, x_4, x_6, x_8, x_{10}, x_{11}, x_{13}, x_{16}, b, c\}, \\
 B(X_{56}) &= \{x_2, x_4, x_6, x_8, x_9, x_{11}, x_{13}, x_{15}, x_{17}\}, B(X_{57}) = \{x_2, x_4, x_6, x_9, x_{11}, x_{13}, x_{15}, x_{17}\}, \\
 B(X_{58}) &= \{x_2, x_4, x_6, x_9, x_{11}, x_{13}, x_{15}\}, B(X_{59}) = \{x_2, x_4, x_6, x_{11}, x_{13}, x_{15}\}, \\
 B(X_{60}) &= \{x_4, x_6, x_9, x_{11}, x_{16}\}, B(X_{61}) = \{x_4, x_6, x_{11}, b, c\}, B(X_{62}) = \{x_4, x_6, x_{10}, x_{16}, b, c\}, \\
 B(X_{63}) &= \{x_2, x_4, x_6, x_9, x_{11}, x_{13}, x_{16}\}, B(X_{64}) = \{x_1, x_4, x_6, x_9, x_{11}, x_{13}\}, \\
 B(X_{65}) &= \{x_2, x_4, x_6, x_{11}, x_{13}, x_{16}, b, c\}, B(X_{66}) = \{x_6, x_9, x_{11}, x_{16}\}, B(X_{67}) = \{x_5, x_6, x_{12}, b, c\}, \\
 B(X_{68}) &= \{x_6, x_{10}, x_{16}, b, c\}, B(X_{69}) = \{x_1, x_9, x_{13}\}, B(X_{70}) = \{x_9, x_{12}\}, B(X_{71}) = \{x_{11}, b, c\}, \\
 B(X_{72}) &= \{x_9, x_{11}, x_{16}\}, B(X_{73}) = \{x_{11}, b, c\}, B(X_{74}) = \{x_{10}, x_{16}, b, c\}, B(X_{75}) = \{x_1, x_9, x_{14}\}, \\
 B(X_{76}) &= \{x_9, x_{13}\}, B(X_{77}) = \{x_1, x_{13}, b, c\}, B(X_{78}) = \{x_9, x_{12}, x_{16}\}, B(X_{79}) = \{x_{12}, b, c\}, \\
 B(X_{80}) &= \{x_{11}, x_{16}, b, c\}, B(X_{81}) = \{x_1, x_9, x_{15}\}, B(X_{82}) = \{x_9, x_{14}\}, B(X_{83}) = \{x_1, x_{14}, b, c\}, \\
 B(X_{84}) &= \{x_9, x_{13}, x_{16}\}, B(X_{85}) = \{x_{13}, b, c\}, B(X_{86}) = \{x_{12}, x_{16}, b, c\}, B(X_{87}) = \{x_1, x_9, x_{16}\}, \\
 B(X_{88}) &= \{x_9, x_{15}\}, B(X_{89}) = \{x_1, x_{15}, b, c\}, B(X_{90}) = \{x_9, x_{14}, x_{16}\}, B(X_{91}) = \{x_{14}, b, c\}, \\
 B(X_{92}) &= \{x_{13}, x_{16}, b, c\}, B(X_{93}) = \{x_1, x_9, x_{17}\}, B(X_{94}) = \{x_9, x_{16}\}, B(X_{95}) = \{x_1, x_{16}, b, c\}, \\
 B(X_{96}) &= \{x_9, x_{15}, x_{16}\}, B(X_{97}) = \{x_{15}, b, c\}, B(X_{98}) = \{x_{14}, x_{16}, b, c\}, B(X_{99}) = \{x_1, x_9, x_{17}, c\}, \\
 B(X_{100}) &= \{x_9, x_{17}\}, B(X_{101}) = \{x_{14}\}, B(X_{102}) = \{x_9, x_{16}\}, B(X_{103}) = \{x_{15}\}, \\
 B(X_{104}) &= \{x_9, x_{15}, x_{16}\}, B(X_{105}) = \{x_9, x_{17}\}, B(X_{106}) = \{x_1, x_{17}\}, B(X_{107}) = \{x_9, x_{16}\}, \\
 B(X_{108}) &= \{x_{16}\}, B(X_{109}) = \{x_{17}\}, B(X_{110}) = 0.
 \end{aligned}$$

Sehingga diperoleh diferensial himpunan dari masing-masing titik  $x_i$  untuk  $i = 1, 2, \dots,$

110 adalah :

$$\begin{aligned}
 \partial(X_1) &= |B(X_1)| - |X_1| = 1 - 1 = 0, & \partial(X_2) &= |B(X_2)| - |X_2| = 4 - 1 = 3, \\
 \partial(X_3) &= |B(X_3)| - |X_3| = 2 - 1 = 1, & \partial(X_4) &= |B(X_4)| - |X_4| = 2 - 2 = 0, \\
 \partial(X_5) &= |B(X_5)| - |X_5| = 1 - 2 = -1, & \partial(X_6) &= |B(X_6)| - |X_6| = 2 - 2 = 0, \\
 \partial(X_7) &= |B(X_7)| - |X_7| = 3 - 2 = 1, & \partial(X_8) &= |B(X_8)| - |X_8| = 5 - 2 = 3, \\
 \partial(X_9) &= |B(X_9)| - |X_9| = 4 - 2 = 2, & \partial(X_{10}) &= |B(X_{10})| - |X_{10}| = 5 - 2 = 3, \\
 \partial(X_{11}) &= |B(X_{11})| - |X_{11}| = 6 - 2 = 4, & \partial(X_{12}) &= |B(X_{12})| - |X_{12}| = 2 - 2 = 0,
 \end{aligned}$$

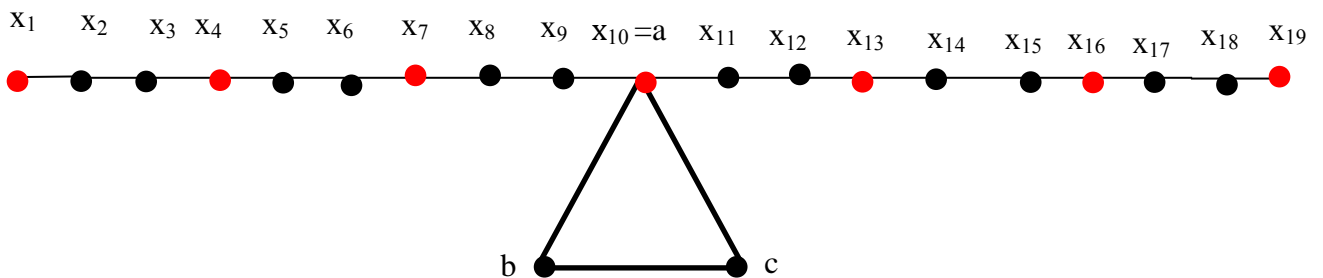
$$\begin{aligned}
 \partial (X_{13}) &= |B(X_{13})| - |X_{13}| = 3 - 2 = 1, & \partial (X_{14}) &= |B(X_{14})| - |X_{14}| = 4 - 2 = 2, \\
 \partial (X_{15}) &= |B(X_{15})| - |X_{15}| = 6 - 3 = 3, & \partial (X_{16}) &= |B(X_{16})| - |X_{16}| = 2 - 3 = -1, \\
 \partial (X_{17}) &= |B(X_{17})| - |X_{17}| = 3 - 3 = 0, & \partial (X_{18}) &= |B(X_{18})| - |X_{18}| = 4 - 3 = 1, \\
 \partial (X_{19}) &= |B(X_{19})| - |X_{19}| = 5 - 3 = 2, & \partial (X_{20}) &= |B(X_{20})| - |X_{20}| = 6 - 3 = 3, \\
 \partial (X_{21}) &= |B(X_{21})| - |X_{21}| = 7 - 3 = 4, & \partial (X_{22}) &= |B(X_{22})| - |X_{22}| = 6 - 3 = 3, \\
 \partial (X_{23}) &= |B(X_{23})| - |X_{23}| = 7 - 3 = 4, & \partial (X_{24}) &= |B(X_{24})| - |X_{24}| = 8 - 3 = 5, \\
 \partial (X_{25}) &= |B(X_{25})| - |X_{25}| = 2 - 3 = -1, & \partial (X_{26}) &= |B(X_{26})| - |X_{26}| = 3 - 3 = 0, \\
 \partial (X_{27}) &= |B(X_{27})| - |X_{27}| = 4 - 3 = 1, & \partial (X_{28}) &= |B(X_{28})| - |X_{28}| = 5 - 3 = 2, \\
 \partial (X_{29}) &= |B(X_{29})| - |X_{29}| = 6 - 3 = 3, & \partial (X_{30}) &= |B(X_{30})| - |X_{30}| = 1 - 3 = -2, \\
 \partial (X_{31}) &= |B(X_{31})| - |X_{31}| = 2 - 3 = -1, & \partial (X_{32}) &= |B(X_{32})| - |X_{32}| = 3 - 3 = 0, \\
 \partial (X_{33}) &= |B(X_{33})| - |X_{33}| = 4 - 3 = 1, & \partial (X_{34}) &= |B(X_{34})| - |X_{34}| = 5 - 3 = 2, \\
 \partial (X_{35}) &= |B(X_{35})| - |X_{35}| = 8 - 4 = 4, & \partial (X_{36}) &= |B(X_{36})| - |X_{36}| = 10 - 4 = 6, \\
 \partial (X_{37}) &= |B(X_{37})| - |X_{37}| = 8 - 4 = 4, & \partial (X_{38}) &= |B(X_{38})| - |X_{38}| = 7 - 4 = 3, \\
 \partial (X_{39}) &= |B(X_{39})| - |X_{39}| = 9 - 5 = 4, & \partial (X_{40}) &= |B(X_{40})| - |X_{40}| = 12 - 5 = 7, \\
 \partial (X_{41}) &= |B(X_{41})| - |X_{41}| = 12 - 5 = 7, & \partial (X_{42}) &= |B(X_{42})| - |X_{42}| = 8 - 5 = 3, \\
 \partial (X_{43}) &= |B(X_{43})| - |X_{43}| = 6 - 5 = 1, & \partial (X_{44}) &= |B(X_{44})| - |X_{44}| = 7 - 5 = 2, \\
 \partial (X_{45}) &= |B(X_{45})| - |X_{45}| = 9 - 6 = 3, & \partial (X_{46}) &= |B(X_{46})| - |X_{46}| = 10 - 6 = 4, \\
 \partial (X_{47}) &= |B(X_{47})| - |X_{47}| = 9 - 6 = 3, & \partial (X_{48}) &= |B(X_{48})| - |X_{48}| = 9 - 6 = 3, \\
 \partial (X_{49}) &= |B(X_{49})| - |X_{49}| = 9 - 6 = 3, & \partial (X_{50}) &= |B(X_{50})| - |X_{50}| = 8 - 6 = 2, \\
 \partial (X_{51}) &= |B(X_{51})| - |X_{51}| = 8 - 7 = 1, & \partial (X_{52}) &= |B(X_{52})| - |X_{52}| = 9 - 7 = 2, \\
 \partial (X_{53}) &= |B(X_{53})| - |X_{53}| = 7 - 7 = 0, & \partial (X_{54}) &= |B(X_{54})| - |X_{54}| = 10 - 7 = 3, \\
 \partial (X_{55}) &= |B(X_{55})| - |X_{55}| = 10 - 7 = 3, & \partial (X_{56}) &= |B(X_{56})| - |X_{56}| = 9 - 7 = 2, \\
 \partial (X_{57}) &= |B(X_{57})| - |X_{57}| = 8 - 8 = 0, & \partial (X_{58}) &= |B(X_{58})| - |X_{58}| = 7 - 8 = -1, \\
 \partial (X_{59}) &= |B(X_{59})| - |X_{59}| = 6 - 8 = -2, & \partial (X_{60}) &= |B(X_{60})| - |X_{60}| = 5 - 8 = -3, \\
 \partial (X_{61}) &= |B(X_{61})| - |X_{61}| = 5 - 8 = -3, & \partial (X_{62}) &= |B(X_{62})| - |X_{62}| = 6 - 8 = -2, \\
 \partial (X_{63}) &= |B(X_{63})| - |X_{63}| = 7 - 9 = -2, & \partial (X_{64}) &= |B(X_{64})| - |X_{64}| = 7 - 9 = -2, \\
 \partial (X_{65}) &= |B(X_{65})| - |X_{65}| = 8 - 9 = -1, & \partial (X_{66}) &= |B(X_{66})| - |X_{66}| = 4 - 9 = -5, \\
 \partial (X_{67}) &= |B(X_{67})| - |X_{67}| = 5 - 9 = -4, & \partial (X_{68}) &= |B(X_{68})| - |X_{68}| = 5 - 9 = -4, \\
 \partial (X_{69}) &= |B(X_{69})| - |X_{69}| = 3 - 10 = -7, & \partial (X_{70}) &= |B(X_{70})| - |X_{70}| = 2 - 10 = -8, \\
 \partial (X_{71}) &= |B(X_{71})| - |X_{71}| = 3 - 10 = -7, & \partial (X_{72}) &= |B(X_{72})| - |X_{72}| = 3 - 10 = -7,
 \end{aligned}$$

$$\begin{aligned}
 \partial (X_{73}) &= |B(X_{73})| - |X_{73}| = 3 - 10 = -7, & \partial (X_{74}) &= |B(X_{74})| - |X_{74}| = 4 - 10 = -6, \\
 \partial (X_{75}) &= |B(X_{75})| - |X_{75}| = 3 - 11 = -8, & \partial (X_{76}) &= |B(X_{76})| - |X_{76}| = 2 - 11 = -9, \\
 \partial (X_{77}) &= |B(X_{77})| - |X_{77}| = 4 - 11 = -7, & \partial (X_{78}) &= |B(X_{78})| - |X_{78}| = 3 - 11 = -8, \\
 \partial (X_{79}) &= |B(X_{79})| - |X_{79}| = 3 - 11 = -8, & \partial (X_{80}) &= |B(X_{80})| - |X_{80}| = 4 - 11 = -7, \\
 \partial (X_{81}) &= |B(X_{81})| - |X_{81}| = 3 - 12 = -9, & \partial (X_{82}) &= |B(X_{82})| - |X_{82}| = 2 - 12 = -10, \\
 \partial (X_{83}) &= |B(X_{83})| - |X_{83}| = 4 - 12 = -8, & \partial (X_{84}) &= |B(X_{84})| - |X_{84}| = 3 - 12 = -9, \\
 \partial (X_{85}) &= |B(X_{85})| - |X_{85}| = 3 - 12 = -9, & \partial (X_{86}) &= |B(X_{86})| - |X_{86}| = 4 - 12 = -8, \\
 \partial (X_{87}) &= |B(X_{87})| - |X_{87}| = 3 - 13 = -10, & \partial (X_{88}) &= |B(X_{88})| - |X_{88}| = 2 - 13 = -11, \\
 \partial (X_{89}) &= |B(X_{89})| - |X_{89}| = 4 - 13 = -9, & \partial (X_{90}) &= |B(X_{90})| - |X_{90}| = 3 - 13 = -10, \\
 \partial (X_{91}) &= |B(X_{91})| - |X_{91}| = 3 - 13 = -10, & \partial (X_{92}) &= |B(X_{92})| - |X_{92}| = 4 - 13 = -9, \\
 \partial (X_{93}) &= |B(X_{93})| - |X_{93}| = 3 - 14 = -11, & \partial (X_{94}) &= |B(X_{94})| - |X_{94}| = 2 - 14 = -12, \\
 \partial (X_{95}) &= |B(X_{95})| - |X_{95}| = 4 - 14 = -10, & \partial (X_{96}) &= |B(X_{96})| - |X_{96}| = 3 - 14 = -11, \\
 \partial (X_{97}) &= |B(X_{97})| - |X_{97}| = 3 - 14 = -11, & \partial (X_{98}) &= |B(X_{98})| - |X_{98}| = 4 - 14 = -10, \\
 \partial (X_{99}) &= |B(X_{99})| - |X_{99}| = 4 - 15 = -11, & \partial (X_{100}) &= |B(X_{100})| - |X_{100}| = 2 - 15 = -13, \\
 \partial (X_{101}) &= |B(X_{101})| - |X_{101}| = 1 - 15 = -14, & \partial (X_{102}) &= |B(X_{102})| - |X_{102}| = 2 - 16 = -14, \\
 \partial (X_{103}) &= |B(X_{103})| - |X_{103}| = 1 - 16 = -15, & \partial (X_{104}) &= |B(X_{104})| - |X_{104}| = 3 - 16 = -13, \\
 \partial (X_{105}) &= |B(X_{105})| - |X_{105}| = 2 - 17 = -15, & \partial (X_{106}) &= |B(X_{106})| - |X_{106}| = 2 - 17 = -15, \\
 \partial (X_{107}) &= |B(X_{107})| - |X_{107}| = 2 - 17 = -15, & \partial (X_{108}) &= |B(X_{108})| - |X_{108}| = 1 - 17 = -16, \\
 \partial (X_{109}) &= |B(X_{109})| - |X_{109}| = 1 - 18 = -17, & \partial (X_{110}) &= |B(X_{110})| - |X_{110}| = 0 - 19 = -19.
 \end{aligned}$$

Maka diferensial dari graf

$$\text{Amal}(P_{17};C_3, x_9;a) = \max \{7, 6, 5, 4, 3, 2, 1, 0, -1, -2, -3, -4, -5, -6, -7, -8, -9, -10, -11, -12, -13, -14, -15, -16, -17, -19\} = 7.$$

- Untuk  $n = 19 \rightarrow \text{Amal}(P_{19};C_3, x_{10};a)$ .



Gambar Graf Amal  $(P_{19};C_3, x_{10};a)$ .

Diketahui :

$$V(\text{Amal } (P_{19}; C_3, x_{10}; a)) = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}, x_{17}, x_{18}, x_{19}, b, c\}.$$

Pilih :

$$\begin{aligned} X_1 &= \{x_1\}, X_2 = \{x_{10}\}, X_3 = \{x_2\}, X_4 = \{x_1, x_{19}\}, X_5 = \{x_1, x_2\}, X_6 = \{x_1, x_3\}, X_7 = \{x_1, x_4\}, \\ X_8 &= \{x_1, x_{10}\}, X_9 = \{x_9, x_{10}\}, X_{10} = \{x_8, x_{10}\}, X_{11} = \{x_8, x_{10}\}, X_{12} = \{x_2, x_3\}, X_{13} = \{x_2, x_4\}, \\ X_{14} &= \{x_2, x_5\}, X_{15} = \{x_1, x_7, x_{10}\}, X_{16} = \{x_1, x_2, x_{19}\}, X_{17} = \{x_1, x_3, x_{19}\}, X_{18} = \{x_1, x_4, x_{19}\}, \\ X_{19} &= \{x_1, x_2, x_{10}\}, X_{20} = \{x_1, x_3, x_{10}\}, X_{21} = \{x_1, x_4, x_{10}\}, X_{22} = \{x_2, x_3, x_{10}\}, \\ X_{23} &= \{x_2, x_4, x_{10}\}, X_{24} = \{x_2, x_5, x_{10}\}, X_{25} = \{x_2, x_3, x_4\}, X_{26} = \{x_2, x_3, x_5\}, X_{27} = \{x_2, x_3, x_6\}, \\ X_{28} &= \{x_2, x_4, x_8\}, X_{29} = \{x_2, x_5, x_9\}, X_{30} = \{x_1, x_2, x_3\}, X_{31} = \{x_1, x_2, x_4\}, X_{32} = \{x_1, x_2, x_5\}, \\ X_{33} &= \{x_1, x_3, x_6\}, X_{34} = \{x_1, x_4, x_7\}, X_{35} = \{x_2, x_5, x_8, x_{11}\}, X_{36} = \{x_1, x_5, x_8, x_{11}\}, \\ X_{37} &= \{x_2, x_5, x_8, x_{11}\}, X_{38} = \{x_1, x_5, x_8, x_{19}\}, X_{39} = \{x_1, x_5, x_8, x_{10}\}, X_{40} = \{x_1, x_5, x_{10}, x_{19}\}, \\ X_{41} &= \{x_2, x_5, x_8, x_{12}, x_{15}\}, X_{42} = \{x_1, x_5, x_8, x_{12}, x_{15}\}, X_{43} = \{x_2, x_5, x_{10}, x_{13}, x_{16}\}, \\ X_{44} &= \{x_1, x_5, x_{13}, x_{16}, x_{19}\}, X_{45} = \{x_1, x_5, x_{10}, x_{13}, x_{16}\}, X_{46} = \{x_1, x_5, x_{10}, x_{13}, x_{19}\}, \\ X_{47} &= \{x_2, x_3, x_4, x_{11}, x_{12}, x_{13}\}, X_{48} = \{x_1, x_2, x_3, x_{11}, x_{12}, x_{13}\}, X_{49} = \{x_1, x_2, x_3, x_{10}, x_{12}, x_{14}\}, \\ X_{50} &= \{x_1, x_2, x_3, x_{12}, x_{14}, x_{19}\}, X_{51} = \{x_1, x_2, x_3, x_{12}, x_{14}, x_{19}\}, X_{52} = \{x_1, x_2, x_3, x_4, x_{10}, x_{19}\}, \\ X_{53} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8\}, X_{54} = \{x_1, x_4, x_7, x_{10}, x_{13}, x_{16}, x_{19}\}, \\ X_{55} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_{10}\}, X_{56} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_{19}\}, \\ X_{57} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_{10}\}, X_{58} = \{x_1, x_2, x_3, x_4, x_5, x_{10}, x_{19}\}, \\ X_{59} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9\}, X_{60} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8\}, \\ X_{61} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{11}, b, c\}, X_{62} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_9, x_{19}\}, \\ X_{63} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_{10}\}, X_{64} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_{10}, x_{19}\}, \\ X_{65} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, b\}, X_{66} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9\}, \\ X_{67} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}\}, X_{68} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_{19}\}, \\ X_{69} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_{10}\}, X_{70} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_{10}, x_{19}\}, \\ X_{71} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, b, c\}, X_{72} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, b\}, \\ X_{73} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, b\}, X_{74} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{19}\}, \\ X_{75} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}\}, X_{76} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_{10}, x_{19}\}, \\ X_{77} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{11}, b, c\}, X_{78} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, b, c\}, \\ X_{79} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, b\}, X_{80} = \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, b, c\}, \\ X_{81} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{19}, b\}, X_{82} = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{18}\}, \\ X_{83} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{11}, x_{12}, x_{13}, x_{14}\}, \end{aligned}$$

$$\begin{aligned}
X_{84} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{11}, x_{12}, x_{13}\}, \\
X_{85} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}\}, \\
X_{86} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{19}, \mathbf{b}, \mathbf{c}\}, \\
X_{87} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, \mathbf{b}, \mathbf{c}\}, \\
X_{88} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{19}\}, \\
X_{89} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}\}, \\
X_{90} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{11}, x_{12}, x_{13}, x_{14}\}, \\
X_{91} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}\}, \\
X_{92} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{11}, x_{12}, x_{13}, x_{19}\}, \\
X_{93} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, \mathbf{b}, \mathbf{c}\}, \\
X_{94} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{19}, \mathbf{b}, \mathbf{c}\}, \\
X_{95} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}\}. \\
X_{96} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}\}, \\
X_{97} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, \mathbf{b}, \mathbf{c}\}, \\
X_{98} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, \mathbf{b}, \mathbf{c}\}, \\
X_{99} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{11}, x_{12}, x_{13}, x_{14}, x_{19}\}, \\
X_{100} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{19}, \mathbf{b}, \mathbf{c}\}, \\
X_{101} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{17}, \mathbf{b}, \mathbf{c}\}, \\
X_{102} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}, \mathbf{b}, \mathbf{c}\}, \\
X_{103} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}, \mathbf{b}, \mathbf{c}\}, \\
X_{104} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}, x_{17}, \mathbf{19}\}, \\
X_{105} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, \mathbf{b}, \mathbf{c}\}, \\
X_{106} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{19}, \mathbf{b}, \mathbf{c}\}, \\
X_{107} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{19}, \mathbf{b}, \mathbf{c}\}, \\
X_{108} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}, x_{17}, \mathbf{b}, \mathbf{c}\}, \\
X_{109} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}, x_{17}, \mathbf{b}, \mathbf{c}\}, \\
X_{110} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}, x_{17}, x_{18}, x_{19}\}, \\
X_{111} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}, \mathbf{b}, \mathbf{c}\}, \\
X_{112} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{19}, \mathbf{b}, \mathbf{c}\}, \\
X_{113} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}, x_{17}, x_{18}, \mathbf{b}, \mathbf{c}\}, \\
X_{114} &= \{x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}, x_{17}, x_{18}, \mathbf{b}, \mathbf{c}\}, \\
X_{115} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}, x_{17}, x_{19}, \mathbf{b}, \mathbf{c}\},
\end{aligned}$$

$$\begin{aligned} X_{116} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}, x_{17}, b, c\}, \\ X_{117} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}, x_{17}, x_{19}, b, c\}, \\ X_{118} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}, x_{17}, x_{18}, x_{19}, b, c\}, \\ X_{119} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}, x_{17}, x_{18}, b, c\}, \\ X_{120} &= \{x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, x_{10}, x_{11}, x_{12}, x_{13}, x_{14}, x_{15}, x_{16}, x_{17}, x_{18}, x_{19}, b, c\}. \end{aligned}$$

Maka tetangga dari masing-masing titik  $x_i$  untuk  $i = 1, 2, \dots, 120$  adalah :

$$\begin{aligned} B(X_1) &= \{x_2\}, B(X_2) = \{x_9, x_{11}, b, c\}, B(X_3) = \{x_1, x_3\}, B(X_4) = \{x_2, x_{18}\}, B(X_5) = \{x_3\}, \\ B(X_6) &= \{x_2, x_4\}, B(X_7) = \{x_2, x_3, x_5\}, B(X_8) = \{x_2, x_9, x_{11}, b, c\}, B(X_9) = \{x_8, x_{11}, b, c\}, \\ B(X_{10}) &= \{x_7, x_9, x_{11}, b, c\}, B(X_{11}) = \{x_6, x_8, x_9, x_{11}, b, c\}, B(X_{12}) = \{x_1, x_4\}, \\ B(X_{13}) &= \{x_1, x_3, x_5\}, B(X_{14}) = \{x_1, x_3, x_4, x_6\}, B(X_{15}) = \{x_2, x_9, x_{11}, x_{18}, b, c\}, \\ B(X_{16}) &= \{x_3, x_{18}\}, B(X_{17}) = \{x_2, x_4, x_{18}\}, B(X_{18}) = \{x_2, x_3, x_5, x_{18}\}, B(X_{19}) = \{x_3, x_9, x_{11}, b, c\}, \\ B(X_{20}) &= \{x_2, x_4, x_9, x_{11}, b, c\}, B(X_{21}) = \{x_2, x_3, x_5, x_9, x_{11}, b, c\}, \\ B(X_{22}) &= \{x_1, x_4, x_9, x_{11}, b, c\}, B(X_{23}) = \{x_1, x_3, x_5, x_9, x_{11}, b, c\}, \\ B(X_{24}) &= \{x_1, x_3, x_4, x_6, x_9, x_{11}, x_{21}, x_{22}\}, B(X_{25}) = \{x_1, x_5\}, B(X_{26}) = \{x_1, x_4, x_6\}, \\ B(X_{27}) &= \{x_1, x_4, x_5, x_7\}, B(X_{28}) = \{x_1, x_3, x_5, x_7, x_9\}, B(X_{29}) = \{x_1, x_3, x_4, x_6, x_8, x_{10}\}, \\ B(X_{30}) &= \{x_4\}, B(X_{31}) = \{x_3, x_5\}, B(X_{32}) = \{x_3, x_4, x_6\}, B(X_{33}) = \{x_2, x_4, x_5, x_7\}, \\ B(X_{34}) &= \{x_2, x_3, x_5, x_6, x_8\}, B(X_{35}) = \{x_1, x_3, x_4, x_6, x_7, x_9, x_{10}, x_{12}\}, \\ B(X_{36}) &= \{x_2, x_4, x_6, x_7, x_9, x_{10}, x_{12}\}, B(X_{37}) = \{x_4, x_6, x_7, x_9, x_{12}, b, c\}, \\ B(X_{38}) &= \{x_2, x_4, x_6, x_7, x_9\}, B(X_{39}) = \{x_2, x_4, x_6, x_7, x_9, x_{11}, b, c\}, \\ B(X_{40}) &= \{x_2, x_4, x_6, x_7, x_9, x_{11}, x_{18}, b, c\}, B(X_{41}) = \{x_1, x_3, x_4, x_6, x_7, x_9, x_{11}, x_{13}, x_{14}, x_{16}\}, \\ B(X_{42}) &= \{x_2, x_4, x_6, x_7, x_9, x_{11}, x_{13}, x_{14}, x_{16}\}, B(X_{43}) = \{x_1, x_3, x_4, x_6, x_9, x_{11}, x_{12}, x_{14}, x_{15}, x_{17}, b, c\}, \\ B(X_{44}) &= \{x_2, x_4, x_6, x_{12}, x_{14}, x_{15}, x_{17}, x_{18}\}, \\ B(X_{45}) &= \{x_2, x_4, x_6, x_9, x_{11}, x_{12}, x_{14}, x_{15}, x_{17}, b, c\}, B(X_{46}) = \{x_2, x_4, x_6, x_9, x_{11}, x_{12}, x_{14}, x_{18}\}, \\ B(X_{47}) &= \{x_1, x_5, x_{10}, x_{14}\}, B(X_{48}) = \{x_4, x_{10}, x_{14}\}, B(X_{49}) = \{x_4, x_9, x_{11}, x_{14}, b, c\}, \\ B(X_{50}) &= \{x_4, x_{11}, x_{14}, x_{18}\}, B(X_{51}) = \{x_1, x_5, x_9, x_{13}, b, c\}, B(X_{52}) = \{x_5, x_9, x_{13}, x_{18}, b, c\}, \\ B(X_{53}) &= \{x_1, x_9\}, B(X_{54}) = \{x_2, x_3, x_5, x_6, x_8, x_9, x_{11}, x_{12}, x_{14}, x_{15}, x_{17}, x_{18}, b, c\}, \\ B(X_{55}) &= \{x_1, x_9, x_{11}, b, c\}, B(X_{56}) = \{x_7, x_{18}\}, B(X_{57}) = \{x_7, x_9, x_{11}, b, c\}, \\ B(X_{58}) &= \{x_6, x_9, x_{11}, x_{18}, b, c\}, B(X_{59}) = \{x_1, x_{10}\}, B(X_{60}) = \{x_9\}, B(X_{61}) = \{x_1, x_9, x_{11}, b, c\}, \\ B(X_{62}) &= \{x_7, x_8, x_{10}, x_{18}\}, B(X_{63}) = \{x_8, x_9, x_{11}, b, c\}, B(X_{64}) = \{x_7, x_9, x_{11}, x_{18}, b, c\}, \\ B(X_{65}) &= \{x_1, x_{10}, c\}, B(X_{66}) = \{x_{10}\}, B(X_{67}) = \{x_1, x_{11}, b, c\}, B(X_{68}) = \{x_9, x_{18}\}, \\ B(X_{69}) &= \{x_9, x_{11}, b, c\}, B(X_{70}) = \{x_8, x_9, x_{11}, x_{18}, b, c\}, B(X_{71}) = \{x_1, x_{10}\}, B(X_{72}) = \{x_{10}, c\}, \\ B(X_{73}) &= \{x_1, x_{11}, c\}, B(X_{74}) = \{x_{10}, x_{18}\}, B(X_{75}) = \{x_{11}, b, c\}, \end{aligned}$$

$$\begin{aligned}
 B(X_{76}) &= \{x_9, x_{11}, x_{18}, b, c\}, B(X_{77}) = \{x_1, x_{10}, x_{12}\}, B(X_{78}) = \{x_{10}\}, B(X_{79}) = \{x_{11}, c\}, \\
 B(X_{80}) &= \{x_1, x_{11}\}, B(X_{81}) = \{x_{10}, x_{18}, c\}, B(X_{82}) = \{x_{11}, x_{18}, b, c\}, B(X_{83}) = \{x_1, x_{10}, x_{15}\}, \\
 B(X_{84}) &= \{x_{10}, x_{14}\}, B(X_{85}) = \{x_1, x_{14}, b, c\}, B(X_{86}) = \{x_{10}, x_{18}\}, B(X_{87}) = \{x_{11}\}, \\
 B(X_{88}) &= \{x_{12}, x_{18}, b, c\}, B(X_{89}) = \{x_1, x_{10}, x_{16}\}, B(X_{90}) = \{x_{10}, x_{15}\}, \\
 B(X_{91}) &= \{x_1, x_{15}, b, c\}, B(X_{92}) = \{x_{10}, x_{18}\}, B(X_{93}) = \{x_{12}\}, B(X_{94}) = \{x_{11}, x_{18}\}, \\
 B(X_{95}) &= \{x_1, x_{10}, x_{17}\}, B(X_{96}) = \{x_{10}, x_{16}\}, B(X_{97}) = \{x_{13}\}, B(X_{98}) = \{x_1, x_{14}\}, \\
 B(X_{99}) &= \{x_{10}, x_{15}, x_{18}\}, B(X_{100}) = \{x_{12}, x_{18}\}, B(X_{101}) = \{x_1, x_{10}, x_{18}\}, B(X_{102}) = \{x_{10}, x_{17}\}, \\
 B(X_{103}) &= \{x_1, x_{17}\}, B(X_{104}) = \{x_{10}, x_{18}\}, B(X_{105}) = \{x_{16}\}, B(X_{106}) = \{x_{15}, x_{18}\}, \\
 B(X_{107}) &= \{x_1, x_{10}, x_{19}\}, B(X_{108}) = \{x_{10}, x_{18}\}, B(X_{109}) = \{x_1, x_{18}\}, B(X_{110}) = \{x_{10}\}, \\
 B(X_{111}) &= \{x_{17}\}, B(X_{112}) = \{x_{16}, x_{18}\}, B(X_{113}) = \{x_{10}, x_{19}\}, B(X_{114}) = \{x_1, x_{19}\}, \\
 B(X_{115}) &= \{x_{10}, x_{18}\}, B(X_{116}) = \{x_{18}\}, B(X_{117}) = \{x_{17}, x_{18}\}, B(X_{118}) = \{x_{10}\}, B(X_{119}) = \{x_{19}\}, \\
 B(X_{120}) &= 0.
 \end{aligned}$$

Sehingga diperoleh diferensial himpunan dari masing-masing titik  $x_i$  untuk  $i = 1, 2, \dots$ ,

120 adalah :

$$\begin{aligned}
 \partial(X_1) &= |B(X_1)| - |X_1| = 1 - 1 = 0, & \partial(X_2) &= |B(X_2)| - |X_2| = 4 - 1 = 3, \\
 \partial(X_3) &= |B(X_3)| - |X_3| = 2 - 1 = 1, & \partial(X_4) &= |B(X_4)| - |X_4| = 2 - 2 = 0, \\
 \partial(X_5) &= |B(X_5)| - |X_5| = 1 - 2 = -1, & \partial(X_6) &= |B(X_6)| - |X_6| = 2 - 2 = 0, \\
 \partial(X_7) &= |B(X_7)| - |X_7| = 3 - 2 = 1, & \partial(X_8) &= |B(X_8)| - |X_8| = 5 - 2 = 3, \\
 \partial(X_9) &= |B(X_9)| - |X_9| = 4 - 2 = 2, & \partial(X_{10}) &= |B(X_{10})| - |X_{10}| = 5 - 2 = 3, \\
 \partial(X_{11}) &= |B(X_{11})| - |X_{11}| = 6 - 2 = 4, & \partial(X_{12}) &= |B(X_{12})| - |X_{12}| = 2 - 2 = 0, \\
 \partial(X_{13}) &= |B(X_{13})| - |X_{13}| = 3 - 2 = 1, & \partial(X_{14}) &= |B(X_{14})| - |X_{14}| = 4 - 2 = 2, \\
 \partial(X_{15}) &= |B(X_{15})| - |X_{15}| = 6 - 3 = 3, & \partial(X_{16}) &= |B(X_{16})| - |X_{16}| = 2 - 3 = -1, \\
 \partial(X_{17}) &= |B(X_{17})| - |X_{17}| = 3 - 3 = 0, & \partial(X_{18}) &= |B(X_{18})| - |X_{18}| = 4 - 3 = 1, \\
 \partial(X_{19}) &= |B(X_{19})| - |X_{19}| = 5 - 3 = 2, & \partial(X_{20}) &= |B(X_{20})| - |X_{20}| = 6 - 3 = 3, \\
 \partial(X_{21}) &= |B(X_{21})| - |X_{21}| = 7 - 3 = 4, & \partial(X_{22}) &= |B(X_{22})| - |X_{22}| = 6 - 3 = 3, \\
 \partial(X_{23}) &= |B(X_{23})| - |X_{23}| = 7 - 3 = 4, & \partial(X_{24}) &= |B(X_{24})| - |X_{24}| = 8 - 3 = 5, \\
 \partial(X_{25}) &= |B(X_{25})| - |X_{25}| = 2 - 3 = -1, & \partial(X_{26}) &= |B(X_{26})| - |X_{26}| = 3 - 3 = 0, \\
 \partial(X_{27}) &= |B(X_{27})| - |X_{27}| = 4 - 3 = 1, & \partial(X_{28}) &= |B(X_{28})| - |X_{28}| = 5 - 3 = 2, \\
 \partial(X_{29}) &= |B(X_{29})| - |X_{29}| = 6 - 3 = 3, & \partial(X_{30}) &= |B(X_{30})| - |X_{30}| = 1 - 3 = -2, \\
 \partial(X_{31}) &= |B(X_{31})| - |X_{31}| = 2 - 3 = -1, & \partial(X_{32}) &= |B(X_{32})| - |X_{32}| = 3 - 3 = 0, \\
 \partial(X_{33}) &= |B(X_{33})| - |X_{33}| = 4 - 3 = 1, & \partial(X_{34}) &= |B(X_{34})| - |X_{34}| = 5 - 3 = 2,
 \end{aligned}$$



$$\begin{aligned}
\partial (X_{35}) &= |B(X_{35})| - |X_{35}| = 8 - 4 = 4, & \partial (X_{36}) &= |B(X_{36})| - |X_{36}| = 7 - 4 = 3, \\
\partial (X_{37}) &= |B(X_{37})| - |X_{37}| = 7 - 4 = 3, & \partial (X_{38}) &= |B(X_{38})| - |X_{38}| = 6 - 4 = 2, \\
\partial (X_{39}) &= |B(X_{39})| - |X_{39}| = 8 - 4 = 4, & \partial (X_{40}) &= |B(X_{40})| - |X_{40}| = 8 - 4 = 4, \\
\partial (X_{41}) &= |B(X_{41})| - |X_{41}| = 10 - 5 = 5, & \partial (X_{42}) &= |B(X_{42})| - |X_{42}| = 9 - 5 = 4, \\
\partial (X_{43}) &= |B(X_{43})| - |X_{43}| = 12 - 5 = 7, & \partial (X_{44}) &= |B(X_{44})| - |X_{44}| = 8 - 5 = 3, \\
\partial (X_{45}) &= |B(X_{45})| - |X_{45}| = 11 - 5 = 6, & \partial (X_{46}) &= |B(X_{46})| - |X_{46}| = 8 - 5 = 3, \\
\partial (X_{47}) &= |B(X_{47})| - |X_{47}| = 4 - 6 = -2, & \partial (X_{48}) &= |B(X_{48})| - |X_{48}| = 3 - 6 = -3, \\
\partial (X_{49}) &= |B(X_{49})| - |X_{49}| = 6 - 6 = 0, & \partial (X_{50}) &= |B(X_{50})| - |X_{50}| = 4 - 6 = -2, \\
\partial (X_{51}) &= |B(X_{51})| - |X_{51}| = 6 - 6 = 0, & \partial (X_{52}) &= |B(X_{52})| - |X_{52}| = 6 - 6 = 0, \\
\partial (X_{53}) &= |B(X_{53})| - |X_{53}| = 2 - 7 = -5, & \partial (X_{54}) &= |B(X_{54})| - |X_{54}| = 14 - 7 = 7, \\
\partial (X_{55}) &= |B(X_{55})| - |X_{55}| = 5 - 7 = -2, & \partial (X_{56}) &= |B(X_{56})| - |X_{56}| = 2 - 7 = -5, \\
\partial (X_{57}) &= |B(X_{57})| - |X_{57}| = 5 - 7 = -2, & \partial (X_{58}) &= |B(X_{58})| - |X_{58}| = 6 - 7 = -1, \\
\partial (X_{59}) &= |B(X_{59})| - |X_{59}| = 2 - 8 = -6, & \partial (X_{60}) &= |B(X_{60})| - |X_{60}| = 1 - 8 = -7, \\
\partial (X_{61}) &= |B(X_{61})| - |X_{61}| = 5 - 8 = -3, & \partial (X_{62}) &= |B(X_{62})| - |X_{62}| = 4 - 8 = -4, \\
\partial (X_{63}) &= |B(X_{63})| - |X_{63}| = 5 - 8 = -3, & \partial (X_{64}) &= |B(X_{64})| - |X_{64}| = 6 - 8 = -2, \\
\partial (X_{65}) &= |B(X_{65})| - |X_{65}| = 3 - 9 = -6, & \partial (X_{66}) &= |B(X_{66})| - |X_{66}| = 1 - 9 = -8, \\
\partial (X_{67}) &= |B(X_{67})| - |X_{67}| = 4 - 9 = -5, & \partial (X_{68}) &= |B(X_{68})| - |X_{68}| = 2 - 9 = -7, \\
\partial (X_{69}) &= |B(X_{69})| - |X_{69}| = 4 - 9 = -5, & \partial (X_{70}) &= |B(X_{70})| - |X_{70}| = 6 - 9 = -3, \\
\partial (X_{71}) &= |B(X_{71})| - |X_{71}| = 2 - 10 = -8, & \partial (X_{72}) &= |B(X_{72})| - |X_{72}| = 2 - 10 = -8, \\
\partial (X_{73}) &= |B(X_{73})| - |X_{73}| = 2 - 10 = -8, & \partial (X_{74}) &= |B(X_{74})| - |X_{74}| = 2 - 10 = -8, \\
\partial (X_{75}) &= |B(X_{75})| - |X_{75}| = 2 - 10 = -8, & \partial (X_{76}) &= |B(X_{76})| - |X_{76}| = 5 - 10 = -5, \\
\partial (X_{77}) &= |B(X_{77})| - |X_{77}| = 3 - 11 = -8, & \partial (X_{78}) &= |B(X_{78})| - |X_{78}| = 1 - 11 = -10, \\
\partial (X_{79}) &= |B(X_{79})| - |X_{79}| = 2 - 11 = -9, & \partial (X_{80}) &= |B(X_{80})| - |X_{80}| = 2 - 11 = -9, \\
\partial (X_{81}) &= |B(X_{81})| - |X_{81}| = 3 - 11 = -8, & \partial (X_{82}) &= |B(X_{82})| - |X_{82}| = 4 - 11 = -7, \\
\partial (X_{83}) &= |B(X_{83})| - |X_{83}| = 3 - 12 = -9, & \partial (X_{84}) &= |B(X_{84})| - |X_{84}| = 2 - 12 = -10, \\
\partial (X_{85}) &= |B(X_{85})| - |X_{85}| = 4 - 12 = -8, & \partial (X_{86}) &= |B(X_{86})| - |X_{86}| = 2 - 12 = -10, \\
\partial (X_{87}) &= |B(X_{87})| - |X_{87}| = 1 - 12 = -11, & \partial (X_{88}) &= |B(X_{88})| - |X_{88}| = 4 - 12 = -8, \\
\partial (X_{89}) &= |B(X_{89})| - |X_{89}| = 3 - 13 = -10, & \partial (X_{90}) &= |B(X_{90})| - |X_{90}| = 2 - 13 = -11, \\
\partial (X_{91}) &= |B(X_{91})| - |X_{91}| = 4 - 13 = -9, & \partial (X_{92}) &= |B(X_{92})| - |X_{92}| = 2 - 13 = -11, \\
\partial (X_{93}) &= |B(X_{93})| - |X_{93}| = 1 - 13 = -12, & \partial (X_{94}) &= |B(X_{94})| - |X_{94}| = 2 - 13 = -11,
\end{aligned}$$

$$\begin{aligned}
 \partial (X_{95}) &= |B(X_{95})| - |X_{95}| = 3 - 14 = -11, & \partial (X_{96}) &= |B(X_{96})| - |X_{96}| = 2 - 14 = -12, \\
 \partial (X_{97}) &= |B(X_{97})| - |X_{97}| = 1 - 14 = -13, & \partial (X_{98}) &= |B(X_{98})| - |X_{98}| = 2 - 14 = -12, \\
 \partial (X_{99}) &= |B(X_{99})| - |X_{99}| = 3 - 14 = -11, & \partial (X_{100}) &= |B(X_{100})| - |X_{100}| = 2 - 14 = -12, \\
 \partial (X_{101}) &= |B(X_{101})| - |X_{101}| = 3 - 17 = -14, & \partial (X_{102}) &= |B(X_{102})| - |X_{102}| = 2 - 17 = -15, \\
 \partial (X_{103}) &= |B(X_{103})| - |X_{103}| = 2 - 17 = -15, & \partial (X_{104}) &= |B(X_{104})| - |X_{104}| = 2 - 17 = -15, \\
 \partial (X_{105}) &= |B(X_{105})| - |X_{105}| = 1 - 17 = -16, & \partial (X_{106}) &= |B(X_{106})| - |X_{106}| = 2 - 17 = -15, \\
 \partial (X_{107}) &= |B(X_{107})| - |X_{107}| = 3 - 18 = -15, & \partial (X_{108}) &= |B(X_{108})| - |X_{108}| = 2 - 18 = -16, \\
 \partial (X_{109}) &= |B(X_{109})| - |X_{109}| = 2 - 18 = -16, & \partial (X_{110}) &= |B(X_{110})| - |X_{110}| = 1 - 18 = -17, \\
 \partial (X_{111}) &= |B(X_{111})| - |X_{111}| = 1 - 18 = -17, & \partial (X_{112}) &= |B(X_{112})| - |X_{112}| = 2 - 18 = -16, \\
 \partial (X_{113}) &= |B(X_{113})| - |X_{113}| = 2 - 19 = -17, & \partial (X_{114}) &= |B(X_{114})| - |X_{114}| = 2 - 19 = -17, \\
 \partial (X_{115}) &= |B(X_{115})| - |X_{115}| = 2 - 19 = -17, & \partial (X_{116}) &= |B(X_{116})| - |X_{116}| = 1 - 19 = -18, \\
 \partial (X_{117}) &= |B(X_{117})| - |X_{117}| = 2 - 19 = -17, & \partial (X_{118}) &= |B(X_{118})| - |X_{118}| = 1 - 20 = -19, \\
 \partial (X_{119}) &= |B(X_{119})| - |X_{119}| = 1 - 20 = -19, & \partial (X_{120}) &= |B(X_{120})| - |X_{120}| = 0 - 21 = -21.
 \end{aligned}$$

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$$\begin{aligned}
 \text{Amal } (P_{19}; C_3, X_{10}; a) &= \max \{7, 6, 5, 4, 3, 2, 1, 0, -1, -2, -3, -4, -5, -6, -7, -8, -9, -10, -11, -12, -13, \\
 &\quad -14, -15, -16, -17, -18, -19, -21\} = 7.
 \end{aligned}$$