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Lampiran 1. Data harian Radiosonde meliputi Kelembaban di permukaan \mathcal{H}_H dan curah hujan dalam satu tahun pada tahun 2010.

Tahun	Bulan	Hari	Hh	CH	CH Rata2	LN CH/CH Rata2	Tahun	Bulan	Hari	Hh	CH	CH Rata2	LN CH/CH Rata2
2010	1	1	0.84	14	29.32	-0.739212547	2010	2	1	0.91	55	15.64	1.25750145
2010	1	2	0.86	0	29.32	0	2010	2	2	0.97	41	15.64	0.963740332
2010	1	3	0.86	2	29.32	-2.685122696	2010	2	3	0.85	14	15.64	-0.110774406
2010	1	4	0.95	7	29.32	-1.432359728	2010	2	4	0.8	10	15.64	-0.447246642
2010	1	5	0.98	72	29.32	0.898396242	2010	2	5	0.87	0	15.64	0
2010	1	6	0.95	56	29.32	0.647081814	2010	2	6	0.8	78	15.64	1.606877092
2010	1	7	0.94	16	29.32	-0.605681155	2010	2	7	0.88	36	15.64	0.833687203
2010	1	8	0.94	19	29.32	-0.433830898	2010	2	8	0.84	0	15.64	0
2010	1	9	0.97	17	29.32	-0.545056533	2010	2	9	0.92	0	15.64	0
2010	1	10	0.93	78	29.32	0.97843895	2010	2	10	0.85	3	15.64	-1.651219446
2010	1	11	0.97	30	29.32	0.022927505	2010	2	11	0.85	0	15.64	0
2010	1	12	0.97	42	29.32	0.359399741	2010	2	12	0.83	3	15.64	-1.651219446
2010	1	13	1	48	29.32	0.492931134	2010	2	13	0.81	1	15.64	-2.749831735
2010	1	14	0.98	90	29.32	1.121539793	2010	2	14	0.93	0	15.64	0
2010	1	15	0.92	103	29.32	1.256459111	2010	2	15	0.89	47	15.64	1.100315867
2010	1	16	0.94	9	29.32	-1.1810453	2010	2	16	0.91	27	15.64	0.546005131
2010	1	17	0.97	29	29.32	-0.010974047	2010	2	17	0.87	3	15.64	-1.651219446
2010	1	18	0.91	39	29.32	0.285291769	2010	2	18	0.86	12	15.64	-0.264925085
2010	1	19	0.95	31	29.32	0.055717327	2010	2	19	0.85	0	15.64	0
2010	1	20	0.98	62	29.32	0.748864508	2010	2	20	0.89	64	15.64	1.409051348
2010	1	21	0.95	34	29.32	0.148090648	2010	2	21	0.91	0	15.64	0
2010	1	22	0.85	7	29.32	-1.432359728	2010	2	22	0.88	4	15.64	-1.363537374
2010	1	23	0.84	0	29.32	0	2010	2	23	0.87	4	15.64	-1.363537374
2010	1	24	0.83	1	29.32	-3.378269877	2010	2	24	0.85	2	15.64	-2.056684555
2010	1	25	0.87	7	29.32	-1.432359728	2010	2	25	0.97	0	15.64	0
2010	1	26	0.9	7	29.32	-1.432359728	2010	2	26	0.92	25	15.64	0.46904409
2010	1	27	0.91	3	29.32	-2.279657588	2010	2	27	0.85	9	15.64	-0.552607158
2010	1	28	0.96	20	29.32	-0.382537603	2010	2	28	0.81	0	15.64	0
2010	1	29	0.83	16	29.32	-0.605681155	2010						
2010	1	30	0.91	1	29.32	-3.378269877	2010						
2010	1	31	0.99	49	29.32	0.513550421	2010						
Rata2				29.3226			Rata2				15.6429		

Tahun	Bulan	Hari	Hh	CH	CH Rata2	LN CH/CH Rata2	Tahun	Bulan	Hari	Hh	CH	CH Rata2	LN CH/CH Rata2
2010	3	1	0.8	0	7.25	0	2010	4	1	0.86	31	6.03	1.637240194
2010	3	2	0.8	0	7.25	0	2010	4	2	0.79	4	6.03	-0.41045265
2010	3	3	0.86	0	7.25	0	2010	4	3	0.85	0	6.03	0
2010	3	4	0.88	28	7.25	1.351203041	2010	4	4	0.87	10	6.03	0.505838082
2010	3	5	0.88	1	7.25	-1.981001469	2010	4	5	0.91	0	6.03	0
2010	3	6	0.86	21	7.25	1.063520969	2010	4	6	0.85	3	6.03	-0.698134722
2010	3	7	0.84	0	7.25	0	2010	4	7	0.81	0	6.03	0
2010	3	8	0.9	0	7.25	0	2010	4	8	0.86	1	6.03	-1.796747011
2010	3	9	0.85	0	7.25	0	2010	4	9	0.92	0	6.03	0
2010	3	10	1	7	7.25	-0.03509132	2010	4	10	0.83	1	6.03	-1.796747011
2010	3	11	0.98	9	7.25	0.216223108	2010	4	11	0.84	0	6.03	0
2010	3	12	0.85	43	7.25	1.780198647	2010	4	12	0.84	21	6.03	1.247775427
2010	3	13	0.79	0	7.25	0	2010	4	13	0.98	0	6.03	0
2010	3	14	0.79	0	7.25	0	2010	4	14	0.87	0	6.03	0
2010	3	15	0.84	0	7.25	0	2010	4	15	0.84	1	6.03	-1.796747011
2010	3	16	0.8	21	7.25	1.063520969	2010	4	16	0.82	0	6.03	0
2010	3	17	0.79	0	7.25	0	2010	4	17	1	19	6.03	1.147691968
2010	3	18	0.82	0	7.25	0	2010	4	18	0.83	18	6.03	1.093624747
2010	3	19	0.89	0	7.25	0	2010	4	19	0.95	4	6.03	-0.41045265
2010	3	20	0.97	0	7.25	0	2010	4	20	0.84	18	6.03	1.093624747
2010	3	21	0.78	25	7.25	1.237874356	2010	4	21	0.85	5	6.03	-0.187309098
2010	3	22	0.91	0	7.25	0	2010	4	22	0.83	1	6.03	-1.796747011
2010	3	23	0.87	0	7.25	0	2010	4	23	0.82	0	6.03	0
				0	7.25	0	2010	4	24	0.94	0	6.03	0
				0	7.25	0	2010	4	25	0.95	2	6.03	-1.10359983
				0	7.25	0	2010	4	26	0.84	22	6.03	1.294295443
				0	7.25	0	2010	4	27	0.86	0	6.03	0
				3	7.25	-0.88238918	2010	4	28	0.86	6	6.03	-0.004987542
				39	7.25	1.682560177	2010	4	29	0.89	14	6.03	0.842310319
				0	7.25	0	2010	4	30	0.87	0	6.03	0
				28	7.25	1.351203041	2010						
Rata2				7.25806			Rata2				6.03333		



Tahun	Bulan	Hari	Hh	CH	CH Rata2	LN CH/CH Rata2	Tahun	Bulan	Hari	Hh	CH	CH Rata2	LN CH/CH Rata2
2010	5	1	0.78	0	7.03	0	2010	6	1	0.87	24	7.46	1.168498416
2010	5	2	0.9	0	7.03	0	2010	6	2	0.87	0	7.46	0
2010	5	3	0.87	10	7.03	0.352398387	2010	6	3	0.92	0	7.46	0
2010	5	4	0.9	4	7.03	-0.563892345	2010	6	4	0.8	5	7.46	-0.400117502
2010	5	5	0.9	2	7.03	-1.257039525	2010	6	5	0.96	0	7.46	0
2010	5	6	0.9	13	7.03	0.614762652	2010	6	6	0.77	0	7.46	0
2010	5	7	0.86	1	7.03	-1.950186706	2010	6	7	0.88	0	7.46	0
2010	5	8	0.97	5	7.03	-0.340748793	2010	6	8	0.97	7	7.46	-0.063645265
2010	5	9	0.93	33	7.03	1.546320856	2010	6	9	0.93	27	7.46	1.286281452
2010	5	10	0.88	23	7.03	1.18530751	2010	6	10	0.85	17	7.46	0.82365793
2010	5	11	0.98	7	7.03	-0.004276557	2010	6	11	0.92	2	7.46	-1.316408234
2010	5	12	0.94	17	7.03	0.883026638	2010	6	12	0.97	5	7.46	-0.400117502
2010	5	13	0.91	2	7.03	-1.257039525	2010	6	13	0.91	7	7.46	-0.063645265
2010	5	14	0.94	21	7.03	1.094335732	2010	6	14	0.94	1	7.46	-2.009555414
2010	5	15	0.86	9	7.03	0.247037872	2010	6	15	0.93	49	7.46	1.882264884
2010	5	16	0.9	30	7.03	1.451010676	2010	6	16	0.93	11	7.46	0.388339859
2010	5	17	0.89	0	7.03	0	2010	6	17	0.86	2	7.46	-1.316408234
2010	5	18	0.89	0	7.03	0	2010	6	18	0.89	0	7.46	0
2010	5	19	0.89	2	7.03	-1.257039525	2010	6	19	0.84	0	7.46	0
2010	5	20	0.87	0	7.03	0	2010	6	20	0.7	0	7.46	0
2010	5	21	0.95	12	7.03	0.534719944	2010	6	21	0.69	0	7.46	0
2010	5	22	0.95	16	7.03	0.822402016	2010	6	22	0.74	0	7.46	0
2010	5	23	0.91	2	7.03	-1.257039525	2010	6	23	0.93	2	7.46	-1.316408234
2010	5	24	0.92	2	7.03	-1.257039525	2010	6	24	0.98	12	7.46	0.475351236
2010	5	25	0.91	1	7.03	-1.950186706	2010	6	25	0.87	16	7.46	0.763033308
2010	5	26	0.89	0	7.03	0	2010	6	26	0.91	0	7.46	0
2010	5	27	0.83	2	7.03	-1.257039525	2010	6	27	0.87	37	7.46	1.601362498
2010	5	28	0.84	0	7.03	0	2010	6	28	0.87	0	7.46	0
2010	5	29	0.9	0	7.03	0	2010	6	29	0.8	0	7.46	0
2010	5	30	0.75	2	7.03	-1.257039525	2010	6	30	0.93	0	7.46	0
2010	5	31	0.91	2	7.03	-1.257039525	2010						
Rata2				7.03226			Rata2				7.46667		

Tahun	Bulan	Hari	Hh	CH	CH Rata2	LN CH/CH Rata2	Tahun	Bulan	Hari	Hh	CH	CH Rata2	LN CH/CH Rata2
2010	7	1	0.86	0	5.93	0	2010	8	1	0.86	1	3.41	-1.226712291
2010	7	2	0.85	0	5.93	0	2010	8	2	0.87	17	3.41	1.606501053
2010	7	3	0.78	0	5.93	0	2010	8	3	0.67	2	3.41	-0.533565111
2010	7	4	0.91	1	5.93	-1.780024213	2010	8	4	0.98	0	3.41	0
2010	7	5	0.98	7	5.93	0.165885936	2010	8	5	0.88	16	3.41	1.545876431
2010	7	6	0.85	10	5.93	0.52256088	2010	8	6	0.84	1	3.41	-1.226712291
2010	7	7	0.87	0	5.93	0	2010	8	7	0.77	0	3.41	0
2010	7	8	0.85	0	5.93	0	2010	8	8	0.75	0	3.41	0
2010	7	9	0.98	0	5.93	0	2010	8	9	0.82	0	3.41	0
2010	7	10	0.93	34	5.93	1.746336312	2010	8	10	0.91	0	3.41	0
2010	7	11	0.9	5	5.93	-0.170586301	2010	8	11	0.84	0	3.41	0
2010	7	12	0.87	6	5.93	0.011735256	2010	8	12	0.86	0	3.41	0
2010	7	13	0.88	0	5.93	0	2010	8	13	0.81	3	3.41	-0.128100003
2010	7	14	0.91	21	5.93	1.264498225	2010	8	14	0.57	3	3.41	-0.128100003
2010	7	15	0.77	4	5.93	-0.393729852	2010	8	15	0.79	0	3.41	0
2010	7	16	0.84	0	5.93	0	2010	8	16	0.91	0	3.41	0
2010	7	17	0.86	0	5.93	0	2010	8	17	0.79	0	3.41	0
2010	7	18	0.79	1	5.93	-1.780024213	2010	8	18	0.87	0	3.41	0
2010	7	19	0.78	0	5.93	0	2010	8	19	0.84	9	3.41	0.970512286
2010	7	20	0.77	10	5.93	0.52256088	2010	8	20	0.79	1	3.41	-1.226712291
2010	7	21	0.76	0	5.93	0	2010	8	21	0.93	0	3.41	0
2010	7	22	0.79	0	5.93	0	2010	8	22	0.95	11	3.41	1.171182982
2010	7	23	0.93	0	5.93	0	2010	8	23	0.84	14	3.41	1.412345038
2010	7	24	0.78	0	5.93	0	2010	8	24	0.88	3	3.41	-0.128100003
2010	7	25	0.86	10	5.93	0.52256088	2010	8	25	0.98	11	3.41	1.171182982
2010	7	26	0.85	9	5.93	0.417200364	2010	8	26	0.86	0	3.41	0
2010	7	27	0.85	65	5.93	2.394363057	2010	8	27	0.8	1	3.41	-1.226712291
2010	7	28	0.85	1	5.93	-1.780024213	2010	8	28	0.82	0	3.41	0
2010	7	29	0.85	0	5.93	0	2010	8	29	0.75	0	3.41	0
2010	7	30	0.85	0	5.93	0	2010	8	30	0.68	13	3.41	1.338237066
2010	7	31	0.85	0	5.93	0	2010	8	31	0.86	0	3.41	0
Rata2				5.93548			Rata2				3.41935		



Optimization Software:
www.balesio.com

Tahun	Bulan	Hari	Hh	CH	CH Rata2	LN CH/CH Rata2	Tahun	Bulan	Hari	Hh	CH	CH Rata2	LN CH/CH Rata2
2010	9	1	1	0	10.76	0	2010	10	1	0.91	0	4.48	0
2010	9	2	0.75	0	10.76	0	2010	10	2	0.76	8	4.48	0.579818495
2010	9	3	0.81	8	10.76	-0.296394013	2010	10	3	0.78	0	4.48	0
2010	9	4	0.9	1	10.76	-2.375835555	2010	10	4	0.89	0	4.48	0
2010	9	5	0.91	5	10.76	-0.766397642	2010	10	5	0.79	24	4.48	1.678430784
2010	9	6	0.96	19	10.76	0.568603424	2010	10	6	0.85	4	4.48	-0.113328685
2010	9	7	0.91	7	10.76	-0.429925406	2010	10	7	0.92	0	4.48	0
2010	9	8	0.97	18	10.76	0.514536203	2010	10	8	0.86	0	4.48	0
2010	9	9	0.79	40	10.76	1.313043899	2010	10	9	0.91	10	4.48	0.802962047
2010	9	10	0.94	2	10.76	-1.682688374	2010	10	10	0.89	0	4.48	0
2010	9	11	0.84	2	10.76	-1.682688374	2010	10	11	0.91	0	4.48	0
2010	9	12	0.83	7	10.76	-0.429925406	2010	10	12	0.82	1	4.48	-1.499623046
2010	9	13	0.87	3	10.76	-1.277223266	2010	10	13	0.74	0	4.48	0
2010	9	14	0.77	0	10.76	0	2010	10	14	0.75	0	4.48	0
2010	9	15	0.98	0	10.76	0	2010	10	15	0.79	0	4.48	0
2010	9	16	0.97	53	10.76	1.594456359	2010	10	16	0.76	0	4.48	0
2010	9	17	0.97	16	10.76	0.396753168	2010	10	17	0.77	0	4.48	0
2010	9	18	0.69	106	10.76	2.287603539	2010	10	18	0.95	0	4.48	0
2010	9	19	0.86	0	10.76	0	2010	10	19	0.83	4	4.48	-0.113328685
2010	9	20	0.85	7	10.76	-0.429925406	2010	10	20	0.97	0	4.48	0
2010	9	21	0.89	0	10.76	0	2010	10	21	0.83	11	4.48	0.898272226
2010	9	22	0.89	2	10.76	-1.682688374	2010	10	22	0.98	2	4.48	-0.806475866
2010	9	23	0.79	6	10.76	-0.584076086	2010	10	23	0.87	16	4.48	1.272965676
2010	9	24	0.75	0	10.76	0	2010	10	24	0.77	1	4.48	-1.499623046
2010	9	25	0.89	1	10.76	-2.375835555	2010	10	25	1	5	4.48	0.109814866
2010	9	26	0.84	0	10.76	0	2010	10	26	0.92	7	4.48	0.446287103
2010	9	27	0.9	12	10.76	0.109071095	2010	10	27	0.9	5	4.48	0.109814866
2010	9	28	0.89	4	10.76	-0.989541194	2010	10	28	0.97	12	4.48	0.985283603
2010	9	29	0.84	4	10.76	-0.989541194	2010	10	29	0.96	5	4.48	0.109814866
2010	9	30	0.84	0	10.76	0	2010	10	30	0.86	22	4.48	1.591419407
2010							2010	10	31	0.95	2	4.48	-0.806475866
Rata2				10.7667			Rata2				4.48387		

Tahun	Bulan	Hari	Hh	CH	CH Rata2	LN CH/CH Rata2	Tahun	Bulan	Hari	Hh	CH	CH Rata2	LN CH/CH Rata2
2010	11	1	0.89	12	10.8	0.105360516	2010	12	1	0.96	0	16.29	0
2010	11	2	0.94	0	10.8	0	2010	12	2	0.87	15	16.29	-0.082501222
2010	11	3	0.84	43	10.8	1.381653982	2010	12	3	0.8	0	16.29	0
2010	11	4	0.9	37	10.8	1.231371779	2010	12	4	0.95	22	16.29	0.300491031
2010	11	5	0.98	0	10.8	0	2010	12	5	0.95	20	16.29	0.205180851
2010	11	6	0.79	73	10.8	1.910913307	2010	12	6	0.91	7	16.29	-0.844641274
2010	11	7	0.81	0	10.8	0	2010	12	7	0.91	46	16.29	1.038089974
2010	11	8	0.96	0	10.8	0	2010	12	8	0.96	7	16.29	-0.844641274
2010	11	9	0.97	32	10.8	1.086189769	2010	12	9	0.95	17	16.29	0.042661921
2010	11	10	0.95	3	10.8	-1.280933845	2010	12	10	1	21	16.29	0.253971015
2010	11	11	0.86	12	10.8	0.105360516	2010	12	11	0.9	37	16.29	0.82036649
2010	11	12	0.82	0	10.8	0	2010	12	12	0.86	52	16.29	1.160692296
2010	11	13	0.85	0	10.8	0	2010	12	13	0.74	0	16.29	0
2010	11	14	0.95	0	10.8	0	2010	12	14	0.76	0	16.29	0
2010	11	15	0.91	5	10.8	-0.770108222	2010	12	15	0.8	0	16.29	0
2010	11	16	0.86	5	10.8	-0.770108222	2010	12	16	0.79	0	16.29	0
2010	11	17	0.96	0	10.8	0	2010	12	17	0.92	7	16.29	-0.844641274
2010	11	18	0.91	19	10.8	0.564892845	2010	12	18	0.8	32	16.29	0.67518448
2010	11	19	0.97	1	10.8	-2.379546134	2010	12	19	0.97	4	16.29	-1.404257061
2010	11	20	1	8	10.8	-0.300104592	2010	12	20	0.83	6	16.29	-0.998791953
2010	11	21	0.81	4	10.8	-0.993251773	2010	12	21	0.97	0	16.29	0
2010	11	22	0.79	0	10.8	0	2010	12	22	0.86	81	16.29	1.603897732
2010	11	23	0.9	7	10.8	-0.433635985	2010	12	23	0.95	0	16.29	0
2010	11	24	0.9	0	10.8	0	2010	12	24	0.96	8	16.29	-0.711109881
2010	11	25	0.96	10	10.8	-0.076961041	2010	12	25	0.91	4	16.29	-1.404257061
2010	11	26	0.92	48	10.8	1.491654877	2010	12	26	0.9	32	16.29	0.67518448
2010				5	10.8	-0.770108222	2010	12	27	0.95	31	16.29	0.643435782
2010				0	10.8	0	2010	12	28	0.91	12	16.29	-0.305644773
2010				0	10.8	0	2010	12	29	0.93	25	16.29	0.428324402
2010				0	10.8	0	2010	12	30	0.93	8	16.29	-0.711109881
2010				0	10.8	0	2010	12	31	0.89	11	16.29	-0.392656515
Rata2				10.8			Rata2				16.2903		



Lampiran 2. Data curah hujan 3 bulan: Data awal, data filter 0.5 tahun dan data filter 1 tahun

Waktu	Data Awal	Data Filter (0.5thn)	Data Filter (1thn)	Waktu	Data Awal	Data Filter (0.5thn)	Data Filter (1thn)
1		1.069286	1.2293992	46	4.634728988	4.159328	3.8310829
2	2.708050201	0.712409	1.3648060	47	2.197224577	3.412361	3.8664842
3	0	1.001169	1.5402637	48	3.36729583	2.943988	3.8634346
4	3.091042453	1.800762	1.7492995	49	3.663561646	3.113553	3.8094873
5	2.995732274	2.595746	1.9811178	50	3.433987204	3.716882	3.6888897
6	1.945910149	2.904928	2.2193362	51	4.127134385	4.143551	3.4879064
7	3.828641396	2.701399	2.4430009	52	3.526360525	3.876281	3.2014759
8	1.945910149	2.412172	2.6292741	53	1.945910149	2.863977	2.8392773
9	2.833213344	2.499496	2.7564770	54	0	1.608680	2.4284232
10	3.044522438	3.014496	2.8065402	55	0	0.767752	2.0111882
11	3.610917913	3.517420	2.7669213	56	1.945910149	0.673308	1.6383220
12	3.951243719	3.435745	2.6327535	57	1.945910149	1.155942	1.3600820
13	0	2.536005	2.4095137	58	1.098612289	1.734207	1.2173014
14	0	1.160626	2.1153813	59	2.995732274	2.035362	1.2339335
15	0	0.059143	1.7816349	60	2.772588722	2.037779	1.4116580
16	0	-0.152502	1.4497241	61	0	2.034785	1.7270168
17	1.945910149	0.533619	1.1649693	62	3.891820298	2.327360	2.1319810
18	3.465735903	1.592271	0.9683680	63	4.007333185	2.885065	2.5591817
19	1.386294361	2.357774	0.8888956	64	3.713572067	3.367570	2.9323982
20	1.791759469	2.442662	0.9383023	65	2.63905733	3.429478	3.1808997
21	0	1.974062	1.1091736	66	2.302585093	3.007311	3.2541681
22	4.394449155	1.426325	1.3760666	67	0	2.404017	3.1328520
23	0	1.220012	1.6992008	68	4.356708827	2.026820	2.8327443
24	2.079441542	1.477948	2.0303544	69	3.583518938	2.035378	2.4008190
25	1.386294361	2.000318	2.3206757	70	0	2.149171	1.9048990
26	3.465735903	2.443433	2.5295728	71	0	1.908502	1.4200130
27	3.433987204	2.663448	2.6327983	72	1.098612289	1.158897	1.0146832
28	2.48490665	2.781905	2.6271553	73	0	0.227889	0.7397420
29	3.218875825	2.922220	2.5300786	74	1.098612289	-0.292359	0.6211384
30	2.079441542	3.009895	2.3743269	75	0	-0.035840	0.6573815
31	2.397895273	2.812494	2.1999011	76	0	0.861806	0.8219594
32	2.63905733	2.198444	2.0459283	77	3.850147602	1.858865	1.0703743
33	0	1.410680	1.9444362	78	3.295836866	2.421143	1.3502050
34	0.693147181	0.946917	1.9165611	79	1.098612289	2.409312	1.6115918
35	1.945910149	1.172051	1.9707659	80	2.48490665	2.076382	1.8154108
36	4.276666119	2.056515	2.1026945	81	0	1.797566	1.9375912
37	4.025351691	3.126327	2.2967815	82	4.158883083	1.748783	1.9698208
38	2.772588722	3.797006	2.5298244	83	0	1.785603	1.9178796
39	2.944438979	3.769756	2.7761764	84	1.386294361	1.638921	1.7988452
40	2.833213344	3.247881	3.0132808	85	1.386294361	1.229982	1.6377211
41	4.276666119	2.917568	3.2257139	86	0.693147181	0.818820	1.4634047
42	3.218875825	2.40240	3.4063567	87	0	0.777187	1.3040038
43	2.944438979	2.92587	3.5546776	88	3.218875825	1.213722	1.1821667
44	2.079441542	1.8915	3.6734362	89	2.197224577	1.805142	1.1118724
45	2.48490665	2.78384	3.7654210	90	0	2.044225	1.0980193



Lampiran 3. Tabel perhitungan untuk memperoleh nilai efisiensi

Th	Tc	Hh ₁	Hc ₁	Hh ₂	Hc ₂	Hh ₃	Hc ₃	Hh ₄	Hc ₄
300	273	0.82	0.78	0.9	0.88	0.8	0.8	0.82	0.85
300	273	0.82	0.78	0.9	0.88	0.8	0.8	0.82	0.85
300	273	0.82	0.78	0.9	0.88	0.8	0.8	0.82	0.85
300	273	0.82	0.78	0.9	0.88	0.8	0.8	0.82	0.85
300	273	0.82	0.78	0.9	0.88	0.8	0.8	0.82	0.85
300	273	0.82	0.78	0.9	0.88	0.8	0.8	0.82	0.85
300	273	0.82	0.78	0.9	0.88	0.8	0.8	0.82	0.85
300	273	0.82	0.78	0.9	0.88	0.8	0.8	0.82	0.85
300	273	0.82	0.78	0.9	0.88	0.8	0.8	0.82	0.85
300	273	0.82	0.78	0.9	0.88	0.8	0.8	0.82	0.85
300	273	0.82	0.78	0.9	0.88	0.8	0.8	0.82	0.85
300	273	0.82	0.78	0.9	0.88	0.8	0.8	0.82	0.85

Th Ln Hh ₁	Tc Ln Hc ₁	Th Ln Hh ₂	Tc Ln Hc ₂	Th Ln Hh ₃	Tc Ln Hc ₃	Th Ln Hh ₄	Tc Ln Hc ₄	ΔH ₁	ΔH ₂	ΔH ₃	ΔH ₄
-59.5353	-67.83	-31.6082	-34.8985	-66.9431	-60.9182	-59.5353	-44.3677	8.294669	3.290356	-6.02488	-15.1676
-59.5353	-67.83	-31.6082	-34.8985	-66.9431	-60.9182	-59.5353	-44.3677	8.294669	3.290356	-6.02488	-15.1676
-59.5353	-67.83	-31.6082	-34.8985	-66.9431	-60.9182	-59.5353	-44.3677	8.294669	3.290356	-6.02488	-15.1676
-59.5353	-67.83	-31.6082	-34.8985	-66.9431	-60.9182	-59.5353	-44.3677	8.294669	3.290356	-6.02488	-15.1676
-59.5353	-67.83	-31.6082	-34.8985	-66.9431	-60.9182	-59.5353	-44.3677	8.294669	3.290356	-6.02488	-15.1676
-59.5353	-67.83	-31.6082	-34.8985	-66.9431	-60.9182	-59.5353	-44.3677	8.294669	3.290356	-6.02488	-15.1676
-59.5353	-67.83	-31.6082	-34.8985	-66.9431	-60.9182	-59.5353	-44.3677	8.294669	3.290356	-6.02488	-15.1676
-59.5353	-67.83	-31.6082	-34.8985	-66.9431	-60.9182	-59.5353	-44.3677	8.294669	3.290356	-6.02488	-15.1676
-59.5353	-67.83	-31.6082	-34.8985	-66.9431	-60.9182	-59.5353	-44.3677	8.294669	3.290356	-6.02488	-15.1676
-59.5353	-67.83	-31.6082	-34.8985	-66.9431	-60.9182	-59.5353	-44.3677	8.294669	3.290356	-6.02488	-15.1676
-59.5353	-67.83	-31.6082	-34.8985	-66.9431	-60.9182	-59.5353	-44.3677	8.294669	3.290356	-6.02488	-15.1676
-59.5353	-67.83	-31.6082	-34.8985	-66.9431	-60.9182	-59.5353	-44.3677	8.294669	3.290356	-6.02488	-15.1676

R	R*ΔH ₁	R*ΔH ₂	R*ΔH ₃	R*ΔH ₄	R(Th-Tc)	Cpg	Cpg*(Th-Tc)	R*Th	Cvl	Cvl*(Th-Tc)
461.5	3827.99	1518.499	-2780.48	-6999.85	12460.5	1875	50625	138450	1414	38178
461.5	3827.99	1518.499	-2780.48	-6999.85	12460.5	1876	50652	138450	1415	38205
461.5	3827.99	1518.499	-2780.48	-6999.85	12460.5	1877	50679	138450	1416	38232
461.5	3827.99	1518.499	-2780.48	-6999.85	12460.5	1878	50706	138450	1417	38259
461.5	3827.99	1518.499	-2780.48	-6999.85	12460.5	1879	50733	138450	1418	38286
461.5	3827.99	1518.499	-2780.48	-6999.85	12460.5	1880	50760	138450	1419	38313
461.5	3827.99	1518.499	-2780.48	-6999.85	12460.5	1881	50787	138450	1420	38340
461.5	3827.99	1518.499	-2780.48	-6999.85	12460.5	1882	50814	138450	1421	38367
461.5	3827.99	1518.499	-2780.48	-6999.85	12460.5	1883	50841	138450	1422	38394
461.5	3827.99	1518.499	-2780.48	-6999.85	12460.5	1884	50868	138450	1423	38421
461.5	3827.99	1518.499	-2780.48	-6999.85	12460.5	1885	50895	138450	1424	38448



Lampiran 4. Tabel perhitungan untuk memperoleh nilai q (Panas spesifik)

Th	Hh	Tc	Hc	Th Ln Hh	Tc Ln Hc	R	R*(Th Ln Hh-Tc Ln Hc)	Cpg	Cpg*(Th-Tc)	R*Th	R*Tc	Cvl	Cvl*(Th-Tc)
300	0.82	273	0.78	-59.5353	-67.83	461.5	3827.989961	1875	50625	138450	125989.5	1414	38178
300	0.82	273	0.78	-59.5353	-67.83	461.5	3827.989961	1875	50625	138450	125989.5	1414	38178
300	0.82	273	0.78	-59.5353	-67.83	461.5	3827.989961	1875	50625	138450	125989.5	1414	38178
300	0.82	273	0.78	-59.5353	-67.83	461.5	3827.989961	1875	50625	138450	125989.5	1414	38178
300	0.82	273	0.78	-59.5353	-67.83	461.5	3827.989961	1875	50625	138450	125989.5	1414	38178
300	0.82	273	0.78	-59.5353	-67.83	461.5	3827.989961	1875	50625	138450	125989.5	1414	38178
300	0.82	273	0.78	-59.5353	-67.83	461.5	3827.989961	1875	50625	138450	125989.5	1414	38178
300	0.82	273	0.78	-59.5353	-67.83	461.5	3827.989961	1875	50625	138450	125989.5	1414	38178
300	0.82	273	0.78	-59.5353	-67.83	461.5	3827.989961	1875	50625	138450	125989.5	1414	38178
300	0.82	273	0.78	-59.5353	-67.83	461.5	3827.989961	1875	50625	138450	125989.5	1414	38178
300	0.82	273	0.78	-59.5353	-67.83	461.5	3827.989961	1875	50625	138450	125989.5	1414	38178

Lampiran 5. Tabel nilai q (panas spesifik) berdasarkan perbedaan nilai kuantitas campuran (x) disetiap proses siklus Carnot reversibel

x	q ₁₂	q ₂₃	q ₃₄	q ₄₁
0	138450	3827.989961	-125989.5	38178
0.1	124605	3827.989961	-113390.55	33977.401
0.2	110760	3827.989961	-100791.6	29776.80201
0.3	96915	3827.989961	-88192.65	25576.20301
0.4	83070	3827.989961	-75593.7	21375.60402
0.5	69225	3827.989961	-62994.75	17175.00502
0.6	55380	3827.989961	-50395.8	12974.40602
0.7	41535	3827.989961	-37796.85	8773.807027
0.8	27690	3827.989961	-25197.9	4573.208031
0.9	13845	3827.989961	-12598.95	372.6090351

Lampiran 6. Tabel nilai efisiensi berdasarkan perbedaan nilai kuantitas campuran (x) disetiap proses siklus Carnot reversibel

x	η ₁	η ₂	η ₃	η ₄
0	0.114483554	0.099872466	0.071349997	0.041541576
0.1	0.103035199	0.089885219	0.064214997	0.037387418
0.2	0.091586843	0.079897973	0.057079997	0.033233261
0.3	0.080138488	0.069910726	0.049944998	0.029079103
0.4	0.068690132	0.05992348	0.042809998	0.024924945
0.5	0.057241777	0.049936233	0.035674998	0.020770788
0.6	0.045793422	0.039948986	0.028539999	0.01661663
0.7	0.034345066	0.02996174	0.021404999	0.012462473
0.8	0.022896711	0.019974493	0.014269999	0.008308315
0.9	0.011448355	0.009987247	0.007135	0.004154158
1	0	0	0	0

