

LAMPIRAN

Hasil Grafik MILP

Column	NP	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22
NP	0	50	22	108	38	26	34	32	94	24,3	44	20	34	163	31	23	31	33	40	27	27	54	36
R1	50	0	27	113	42	30	38	36	98	25,1	47	24	37	187	38	30	37	35	42	32	33	59	40
R2	22	27	0	119	46	32	41	39	104	27,4	51	28	39	192	41	34	40	38	45	34	36	64	49
R3	108	113	119	0	49	36	44	42	107	29,1	53	31	42	20	49	37	43	41	48	36	41	67	54
R4	38	42	46	49	0	40	46	48	111	37	56	36	46	24	46	40	47	43	52	38	44	69	59
R5	26	30	32	36	40	0	49	52	113	39,4	64	39	48	265	48	42	50	45	54	41	47	73	63
R6	34	38	41	44	46	49	0	55	119	43,3	68	43	52	301	51	45	51	47	57	44	50	77	71
R7	32	36	39	42	48	52	55	0	121	46,2	72	47	57	324	54	47	54	51	62	46	52	79	73
R8	94	98	104	107	111	113	119	121	0	49,1	76	51	59	373	57	49	56	54	68	48	54	82	79
R9	24,3	25,1	27,4	29,1	37	39,4	43,3	46,2	49,1	0	81	54	62	40	99	52	59	57	70	51	58	84	88
R10	44	47	51	53	56	64	68	72	76	81	0	59	65	42,2	62	56	62	60	72	53	61	88	85
R11	20	24	28	31	36	39	43	47	51	54	59	0	68	46,6	64	59	64	62	76	56	63	91	88
R12	34	37	39	42	46	49	52	57	59	62	65	68	0	50,1	66	62	67	64	78	59	66	94	91
R13	163	187	192	20	24	28,5	30,1	32,4	37,3	40	42,2	46,6	50,1	0	70	64	70	68	81	61	68	98	94
R14	31	38	41	43	46	48	51	54	57	59	62	64	66	70	0	68	72	70	84	62	71	104	97
R15	23	30	34	37	40	42	45	47	49	52	56	59	62	64	68	0	76	74	88	64	75	109	102
R16	31	37	40	43	47	50	51	54	56	59	62	64	67	70	72	76	0	77	90	67	78	112	108
R17	33	35	38	41	43	45	47	51	54	57	60	62	64	68	70	74	77	0	92	70	82	115	113
R18	40	42	45	48	52	54	57	62	68	70	72	76	78	81	84	88	90	92	0	72	85	118	119

Hasil Grafik Saving

Column	1P	1R2	1R3	1R4	1R5	1R6	1R7	1R8	1R9	1R10	1R11	1R12	1R13	1R14	1R15	1R16	1R17	1R18	1R19	1R20	1R21	1R22				
1P	0	60	27	130	46	31	4	39	113	36	53	24	41	20	38	28	37	40	48	32	32	32	65	43		
21	60	0	32	156	50	36	46	108	30	56	29	45	23	45	36	46	42	50	38	40	30	38	40	71	48	
32	27	32	0	143	55	38	49	125	33	61	34	47	23	49	41	46	46	54	41	43	41	43	41	43	77	52
43	130	156	143	0	59	43	51	50	128	35	63,6	37,2	50,4	24	51	44	51	49	58	43	49	49	49	80	65	
54	46	50	55	59	0	48	55	38	133	45	67	43	55	29	55	48	56	52	62	46	53	53	83	71		
65	31	36	38	43	48	0	59	82	136	47	77	47	58	34	58	50	60	54	65	49	56	56	88	76		
76	41	46	49	51	55	59	0	66	143	51	82	51	64	37	61	56	61	55	68	53	60	60	91	85		
87	39	43	47	50	58	62	66	0	145	56	86	56	68	39	65	56	66	61	74	55	62	62	95	88		
98	113	128	125	128	133	136	148	146	0	59	91	61	71	45	68	59	67	65	82	58	65	65	98	95		
109	26	30	33	35	45	47	51	56	59	0	57	65	74	48	71	64	71	68	84	61	70	70	101	100		
120	53	56	61	64	67	77	82	86	91	97	0	71	78	51	74	67	74	72	86	64	73	73	106	102		
131	24	29	34	37	43	47	51	56	61	65	71	0	82	56	77	71	77	74	91	67	76	76	109	105		
142	41	45	47	50	55	58	64	68	71	74	78	82	0	60	79	74	80	77	94	71	79	79	113	109		
153	20	23	23	24	29	34	37	39	45	48	51	56	60	0	84	77	84	82	97	73	82	82	118	112		
164	38	45	49	51	55	58	61	65	68	71	74	77	79	84	0	82	84	88	100	74	85	85	125	116		
175	28	36	41	44	48	50	54	56	59	64	67	71	74	77	82	0	91	88	106	77	90	90	131	122		
186	37	45	48	51	56	60	61	65	67	71	74	77	80	84	84	91	0	92	108	80	94	94	134	130		
197	40	47	46	49	51	54	56	61	65	68	72	74	77	82	84	89	91	0	110	84	96	96	138	136		
208	48	50	54	58	61	65	68	74	82	84	86	91	94	97	100	106	110	0	86	102	102	142	145			

Output Lingo Cluster

Lingo 18.0 - [Solution Report - Lingo1]

File Edit Solver Window Help

Global optimal solution found.
 Objective value: 100.5000
 Objective bound: 100.5000
 Infeasibilities: 0.000000
 Extended solver steps: 0
 Total solver iterations: 0
 Elapsed runtime seconds: 0.38

Rute yang paling optimal adalah:
 rute pengiriman dari customer1ke customer2sebesar50km
 rute pengiriman dari customer2ke customer1sebesar50km
 rute pengiriman dari customer3ke customer2sebesar0.5km

Model Class: MILP

Total variables:	12
Nonlinear variables:	0
Integer variables:	9
Total constraints:	19
Nonlinear constraints:	0
Total nonzeros:	45
Nonlinear nonzeros:	0

Variable	Value	Reduced Cost
R	0.1000000E+08	0.000000
BONGKAR (1)	30.00000	0.000000
BONGKAR (2)	30.00000	0.000000
BONGKAR (3)	30.00000	0.000000
BURKA (1)	0.000000	0.000000
BURKA (2)	0.000000	0.000000
BURKA (3)	0.000000	0.000000
TUTUP (1)	480.0000	0.000000
TUTUP (2)	480.0000	0.000000
TUTUP (3)	240.0000	0.000000
T (1)	540.0000	0.000000

Lingo 18.0 Solver Status [Lingo1]

Solver Status	MILP	Variables	Total: 12
Model Class	MILP		Nonlinear: 0
State	Global Opt		Integer: 9
Objective	100.5	Constraints	Total: 19
Infeasibility	0		Nonlinear: 0
Iterations	0	Nonzeros	Total: 45
			Nonlinear: 0
Extended Solver Status		Generator Memory Used (K)	34
Solver Type	B-and-B	Elapsed Runtime (h:mm:ss)	00:00:00
Best Obj	100.5		
Obj Bound	100.5		
Steps	0		
Active	0		

Update Interval: 2 Interrupt Solver Close

Lingo 18.0 - [Solution Report - Lingo1]

File Edit Solver Window Help

Global optimal solution found.
 Objective value: 38.00000
 Objective bound: 38.00000
 Infeasibilities: 0.000000
 Extended solver steps: 0
 Total solver iterations: 0
 Elapsed runtime seconds: 0.41

Rute yang paling optimal adalah:
 rute pengiriman dari customer1ke customer2sebesar15km
 rute pengiriman dari customer2ke customer1kecustomer3sebesar17km
 rute pengiriman dari customer3ke customer2sebesar15km

Model Class: MILP

Total variables:	12
Nonlinear variables:	0
Integer variables:	9
Total constraints:	19
Nonlinear constraints:	0
Total nonzeros:	45
Nonlinear nonzeros:	0

Variable	Value	Reduced Cost
R	0.1000000E+08	0.000000
BONGKAR (1)	40.00000	0.000000
BONGKAR (2)	40.00000	0.000000
BONGKAR (3)	40.00000	0.000000
BURKA (1)	0.000000	0.000000
BURKA (2)	0.000000	0.000000
BURKA (3)	0.000000	0.000000
TUTUP (1)	480.0000	0.000000
TUTUP (2)	480.0000	0.000000
TUTUP (3)	240.0000	0.000000
T (1)	540.0000	0.000000

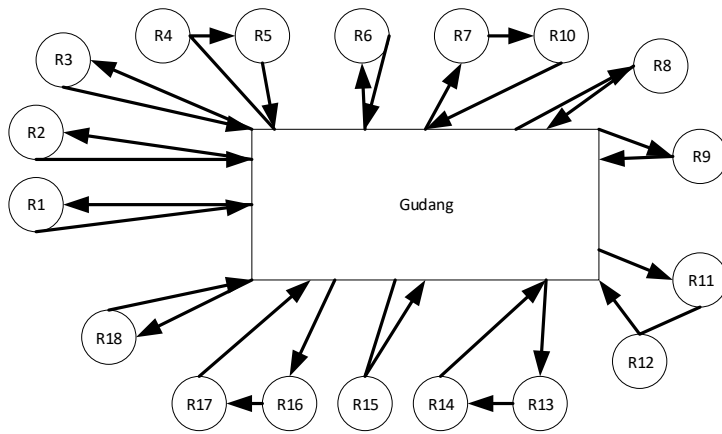
Lingo 18.0 Solver Status [Lingo1]

Solver Status	MILP	Variables	Total: 12
Model Class	MILP		Nonlinear: 0
State	Global Opt		Integer: 9
Objective	38	Constraints	Total: 19
Infeasibility	0		Nonlinear: 0
Iterations	0	Nonzeros	Total: 45
			Nonlinear: 0
Extended Solver Status		Generator Memory Used (K)	34
Solver Type	B-and-B	Elapsed Runtime (h:mm:ss)	00:00:00
Best Obj	38		
Obj Bound	38		
Steps	0		
Active	0		

Update Interval: 2 Interrupt Solver Close

Activate Windows
Go to Settings to activate Windows.

Ln 1, Col 1 2/18/20



Gudang =

Customer =