Lindo programs test run

Question no. 1

min t10 - t0

s.t.

t1 - t0 >= 8

t2 - t1 >= 5

t3 - t2 >= 3

t4 - t2 >= 4

t4 - t3 >= 0

t5 - t4 >= 12

t6 - t3 >= 3

t7 - t6 >= 4

t9 - t7 >= 1

t8 - t6 >= 5

t8 - t9 >= 0

t10 - t8 >= 10

t0 >= 0

t1 >= 0

t2 >= 0

t3 >= 0

t4 >= 0

t5 >= 0

t6 >= 0

t7 >= 0

t8 >= 0

t9 >= 0

t10 >= 0

end

LP OPTIMUM FOUND AT STEP 10

OBJECTIVE FUNCTION VALUE

1) 34.00000

VARIABLE VALUE REDUCED COST

T10 34.000000 0.000000

T0 0.000000 0.000000

T1 8.000000 0.000000

T2 13.000000 0.000000

T3 16.000000 0.000000

T4 17.000000 0.000000

T5 29.000000 0.000000

T6 19.000000 0.000000

T7 23.000000 0.000000

T9 24.000000 0.000000

T8 24.000000 0.000000

Question no. 2

min 3st + 5sy + yt + 2ty + 6tx + 6yz + 7zx + 4yx

s.t.

st + sy = 1

tx + yx + zx = 1

st + yt - ty - tx = 0

sy + ty - yt - yx - yz = 0

yz - zs + xz - zx = 0

end

inte 10

LP OPTIMUM FOUND AT STEP 3

OBJECTIVE VALUE = 9.00000000

NEW INTEGER SOLUTION OF 9.00000000 AT BRANCH 0 PIVOT 3

RE-INSTALLING BEST SOLUTION...

OBJECTIVE FUNCTION VALUE

1) 9.000000

VARIABLE VALUE REDUCED COST

ST 1.000000 3.000000

SY 0.000000 5.000000

YT 0.000000 1.000000

TY 1.000000 2.000000

TX 0.000000 6.000000

YZ 0.000000 6.000000

ZX 0.000000 7.000000

YX 1.000000 4.000000

ZS 0.000000 0.000000

XZ 0.000000 0.000000

Question no. 3

Min c1 + c2 + c3 + c4

S.T.

X11 + X12 + X13 + X14 = 1

X21 + X22 + X23 + X24 = 1

X31 + X32 + X33 + X34 = 1

X41 + X42 + X43 + X44 = 1

X51 + X52 + X53 + X54 = 1

X61 + X62 + X63 + X64 = 1

X71 + X72 + X73 + X74 = 1

X81 + X82 + X83 + X84 = 1

X91 + X92 + X93 + X94 = 1

X101 + X102 + X103 + X104 = 1

X111 + X112 + X113 + X114 = 1

X11 + X21 <= 1

X12 + X22 <= 1

X13 + X23 <= 1

X14 + X24 <= 1

X11 + X31 <= 1

X12 + X32 <= 1

X13 + X33 <= 1

X14 + X34 <= 1

X21 + X41 <= 1

X22 + X42 <= 1

X23 + X43 <= 1

X24 + X44 <= 1

X21 + X31 <= 1

X22 + X32 <= 1

X23 + X33 <= 1

X24 + X34 <= 1

X31 + X41 <= 1

X32 + X42 <= 1

X33 + X43 <= 1

X34 + X44 <= 1

X31 + X81 <= 1

X32 + X82 <= 1

X33 + X83 <= 1

X34 + X84 <= 1

X41 + X51 <= 1

X42 + X52 <= 1

X43 + X53 <= 1

X44 + X54 <= 1

X41 + X81 <= 1

X42 + X82 <= 1

X43 + X83 <= 1

X44 + X84 <= 1

X41 + X61 <= 1

X42 + X62 <= 1

X43 + X63 <= 1

X44 + X64 <= 1

X81 + X51 <= 1

X82 + X52 <= 1

X83 + X53 <= 1

X84 + X54 <= 1

X81 + X71 <= 1

X82 + X72 <= 1

X83 + X73 <= 1

X84 + X74 <= 1

X81 + X91 <= 1

X82 + X92 <= 1

X83 + X93 <= 1

X84 + X94 <= 1

X51 + X61 <= 1

X52 + X62 <= 1

X53 + X63 <= 1

X54 + X64 <= 1

X51 + X71 <= 1

X52 + X72 <= 1

X53 + X73 <= 1

X54 + X74 <= 1

X61 + X71 <= 1

X62 + X72 <= 1

X63 + X73 <= 1

X64 + X74 <= 1

X71 + X101 <= 1

X72 + X102 <= 1

X73 + X103 <= 1

X74 + X104 <= 1

X101 + X111 <= 1

X102 + X112 <= 1

X103 + X113 <= 1

X104 + X114 <= 1

X11 - c1 <= 0

X12 - c2 <= 0

X13 - c3 <= 0

X14 - c4 <= 0

X21 - c1 <= 0

X22 - c2 <= 0

X23 - c3 <= 0

X24 - c4 <= 0

X31 - c1 <= 0

X32 - c2 <= 0

X33 - c3 <= 0

X34 - c4 <= 0

X41 - c1 <= 0

X42 - c2 <= 0

X43 - c3 <= 0

X44 - c4 <= 0

X51 - c1 <= 0

X52 - c2 <= 0

X53 - c3 <= 0

X54 - c4 <= 0

X61 - c1 <= 0

X62 - c2 <= 0

X63 - c3 <= 0

X64 - c4 <= 0

X71 - c1 <= 0

X72 - c2 <= 0

X73 - c3 <= 0

X74 - c4 <= 0

X81 - c1 <= 0

X82 - c2 <= 0

X83 - c3 <= 0

X84 - c4 <= 0

X91 - c1 <= 0

X92 - c2 <= 0

X93 - c3 <= 0

X94 - c4 <= 0

X101 - c1 <= 0

X102 - c2 <= 0

X103 - c3 <= 0

X104 - c4 <= 0

X111 - c1 <= 0

X112 - c2 <= 0

X113 - c3 <= 0

X114 - c4 <= 0

END

INTE 48

OBJECTIVE FUNCTION VALUE

1) 3.000000

VARIABLE VALUE REDUCED COST

C1 1.000000 1.000000

C2 1.000000 1.000000

C3 1.000000 1.000000

C4 0.000000 1.000000

X11 1.000000 0.000000

X12 0.000000 0.000000

X13 0.000000 0.000000

X14 0.000000 0.000000

X21 0.000000 0.000000

X22 0.000000 0.000000

X23 1.000000 0.000000

X24 0.000000 0.000000

X31 0.000000 0.000000

X32 1.000000 0.000000

X33 0.000000 0.000000

X34 0.000000 0.000000

X41 1.000000 0.000000

X42 0.000000 0.000000

X43 0.000000 0.000000

X44 0.000000 0.000000

X51 0.000000 0.000000

X52 1.000000 0.000000

X53 0.000000 0.000000

X54 0.000000 0.000000

X61 0.000000 0.000000

X62 0.000000 0.000000

X63 1.000000 0.000000

X64 0.000000 0.000000

X71 1.000000 0.000000

X72 0.000000 0.000000

X73 0.000000 0.000000

X74 0.000000 0.000000

X81 0.000000 0.000000

X82 0.000000 0.000000

X83 1.000000 0.000000

X84 0.000000 0.000000

X91 0.000000 0.000000

X92 1.000000 0.000000

X93 0.000000 0.000000

X94 0.000000 0.000000

X101 0.000000 0.000000

X102 1.000000 0.000000

X103 0.000000 0.000000

X104 0.000000 0.000000

X111 0.000000 0.000000

X112 0.000000 0.000000

X113 1.000000 0.000000

X114 0.000000 0.000000

Question no. 6

max psv1 + psv2

s.t.

psv1 <= 16

psv2 <= 13

pv1v3 <= 12

pv2v1 <= 4

pv2v4 <= 14

pv3v2 <= 9

pv3t <= 20

pv4v3 <= 7

pv4t <= 4

psv1 + pv2v1 - pv1v3 = 0

psv2 + pv3v2 - pv2v1 - pv2v4 = 0

pv1v3 + pv4v3 - pv3v2 - pv3t = 0

pv2v4 - pv4v3 - pv4t = 0

psv1 >= 0

psv2 >= 0

pv1v3 >= 0

pv2v1 >= 0

pv2v4 >= 0

pv3t >= 0

pv3v2 >= 0

pv4v3 >= 0

pv4t >= 0

end

OBJECTIVE FUNCTION VALUE

1) 23.00000

VARIABLE VALUE REDUCED COST

PSV1 12.000000 0.000000

PSV2 11.000000 0.000000

PV1V3 12.000000 0.000000

PV2V1 0.000000 0.000000

PV2V4 11.000000 0.000000

PV3V2 0.000000 1.000000

PV3T 19.000000 0.000000

PV4V3 7.000000 0.000000

PV4T 4.000000 0.000000