! Example 2 from section 11.4 (page 483);

! A binary programming example from your friendly LINGO expert, John Kawamura;

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!Objective Function;

Max = y11 + 3\*y12 + 3\*y13 + 2\*y22 + 3\*y23 - y31 + 2\*y32 + 4\*y33;

! subject to...;

y11 + y12 + y13 <= 1;

y21 + y22 + y23 <= 1;

y31 + y32 + y33 <= 1;

y11 + 2\*y12 + 3\*y13 + y21 + 2\*y22 + 3\*y23 + y31 + 2\*y32 + 3\*y33 = 5;

! The function @BIN() defines variables to be binary.

This function can also be embedded within a @FOR() function in order to define binary variables over sets.

@GIN() defines variables to be integers.

When using LINGO format, one inserts these expressions after the "END"

statement.;

@BIN(y11);

@BIN(y12);

@BIN(y13);

@BIN(y21);

@BIN(y22);

@BIN(y23);

@BIN(y31);

@BIN(y32);

@BIN(y33);

!solution screen:

Global optimal solution found.

Objective value: 7.000000

Objective bound: 7.000000

Infeasibilities: 0.000000

Extended solver steps: 0

Total solver iterations: 0

Variable Value Reduced Cost

Y11 0.000000 -1.000000

Y12 1.000000 -3.000000

Y13 0.000000 -3.000000

Y22 0.000000 -2.000000

Y23 0.000000 -3.000000

Y31 0.000000 1.000000

Y32 0.000000 -2.000000

Y33 1.000000 -4.000000

Y21 0.000000 0.000000

Row Slack or Surplus Dual Price

1 7.000000 1.000000

2 0.000000 0.000000

3 1.000000 0.000000

4 0.000000 0.000000

5 0.000000 0.000000