**Change the price parameter of supplier 6**

**Q6=0.95**

Node Left Iinf Objective Best Relaxatn Best Incumbent

------ ------ ------ -------------- -------------- --------------

1 0 13 -2.652640e+003 -2.652640e+003 2.341789e+005

10 9 9 -2.550517e+003 -2.652292e+003 -1.670310e+003

20 19 6 -2.554592e+003 -2.580182e+003 -2.250985e+003

30 29 5 -2.555567e+003 -2.577425e+003 -2.389674e+003

40 39 5 -2.502605e+003 -2.556158e+003 -2.393809e+003

50 43 4 -2.555169e+003 -2.555338e+003 -2.393809e+003

60 49 5 -2.538120e+003 -2.554201e+003 -2.393809e+003

70 53 3 -2.503455e+003 -2.552168e+003 -2.393809e+003

80 57 8 -2.545730e+003 -2.548114e+003 -2.393809e+003

90 63 5 -2.513009e+003 -2.541474e+003 -2.393809e+003

100 73 INFEASIBLE pr -2.533559e+003 -2.393809e+003

110 75 -2.370095e+003 pr -2.513009e+003 -2.400519e+003

120 75 3 -2.472003e+003 -2.503743e+003 -2.400519e+003

130 79 INFEASIBLE pr -2.498039e+003 -2.400519e+003

140 69 INFEASIBLE pr -2.493722e+003 -2.400519e+003

150 61 -2.338596e+003 pr -2.484943e+003 -2.400519e+003

160 61 INFEASIBLE pr -2.471701e+003 -2.400519e+003

170 59 -2.383865e+003 pr -2.455325e+003 -2.400519e+003

180 59 -2.372111e+003 pr -2.447657e+003 -2.400519e+003

190 57 INFEASIBLE pr -2.428470e+003 -2.400519e+003

200 55 -2.347356e+003 pr -2.425792e+003 -2.403186e+003

210 53 INFEASIBLE pr -2.422490e+003 -2.403186e+003

220 51 INFEASIBLE pr -2.418021e+003 -2.403186e+003

230 45 5 -2.413950e+003 -2.416621e+003 -2.403186e+003

240 49 5 -2.412634e+003 -2.413714e+003 -2.403186e+003

\* 240 49 r -2.408997e+003

250 53 4 -2.412847e+003 -2.412847e+003 -2.412595e+003

EXIT: Optimal solution found.

Final Statistics for MIP

------------------------

Final objective value = -2.41259472020874e+003

Final integrality gap (abs / rel) = 9.69e-006 / 4.02e-009 ( 0.00)

# of nodes processed = 257

# of subproblems processed = 257

Total program time (secs) = 1164.678 ( 1167.870 CPU time)

Time spent in evaluations (secs) = 1165.377

===========================================================================

>> x

x =

7 0 0 8 0 14 1 0 0 1 0 1 4 142 -1

**Q6= 0.94**

Node Left Iinf Objective Best Relaxatn Best Incumbent

------ ------ ------ -------------- -------------- --------------

1 0 13 -2.652640e+003 -2.652640e+003 2.341789e+005

10 9 12 -2.531378e+003 -2.652292e+003 -1.628768e+003

20 19 6 -2.554592e+003 -2.580182e+003 -2.249516e+003

30 29 5 -2.555567e+003 -2.577425e+003 -2.389674e+003

40 39 5 -2.502605e+003 -2.556158e+003 -2.393809e+003

50 43 4 -2.555169e+003 -2.555338e+003 -2.393809e+003

60 49 5 -2.538120e+003 -2.554201e+003 -2.393809e+003

70 53 3 -2.503455e+003 -2.552168e+003 -2.393809e+003

80 57 5 -2.510628e+003 -2.538120e+003 -2.393809e+003

90 63 10 -2.531271e+003 -2.531378e+003 -2.393809e+003

100 71 9 -2.526474e+003 -2.530212e+003 -2.393809e+003

110 79 8 -2.462846e+003 -2.527361e+003 -2.400519e+003

120 85 9 -2.453213e+003 -2.521131e+003 -2.400519e+003

130 87 INFEASIBLE pr -2.506048e+003 -2.400519e+003

140 89 INFEASIBLE pr -2.501079e+003 -2.400519e+003

150 83 INFEASIBLE pr -2.496806e+003 -2.400519e+003

160 73 INFEASIBLE pr -2.491084e+003 -2.400519e+003

170 65 INFEASIBLE pr -2.471701e+003 -2.400519e+003

180 59 INFEASIBLE pr -2.462846e+003 -2.400519e+003

190 59 7 -2.440628e+003 -2.453213e+003 -2.409529e+003

200 55 -2.372111e+003 pr -2.447657e+003 -2.409529e+003

210 49 INFEASIBLE pr -2.428491e+003 -2.409529e+003

220 41 -2.148461e+003 pr -2.426522e+003 -2.409529e+003

230 41 INFEASIBLE pr -2.422490e+003 -2.409529e+003

240 35 5 -2.417405e+003 -2.418129e+003 -2.409529e+003

250 31 INFEASIBLE pr -2.416177e+003 -2.409529e+003

260 31 3 -2.412983e+003 -2.413637e+003 -2.411486e+003

270 33 -2.412519e+003 pr -2.412847e+003 -2.412595e+003

EXIT: Optimal solution found.

Final Statistics for MIP

------------------------

Final objective value = -2.41259472020874e+003

Final integrality gap (abs / rel) = 9.69e-006 / 4.02e-009 ( 0.00)

# of nodes processed = 275

# of subproblems processed = 275

Total program time (secs) = 1311.383 ( 1314.776 CPU time)

Time spent in evaluations (secs) = 1311.505

===========================================================================

>> x

x =

7 0 0 8 0 14 1 0 0 1 0 1 4 142 -1

**Q6=0.935**

Node Left Iinf Objective Best Relaxatn Best Incumbent

------ ------ ------ -------------- -------------- --------------

1 0 13 -2.652640e+003 -2.652640e+003 2.341789e+005

10 9 13 -2.518055e+003 -2.652292e+003 -1.628768e+003

20 19 6 -2.554592e+003 -2.580182e+003 -2.210520e+003

30 29 5 -2.555567e+003 -2.577425e+003 -2.396515e+003

40 39 5 -2.502605e+003 -2.556158e+003 -2.396515e+003

50 43 4 -2.555169e+003 -2.555338e+003 -2.396515e+003

60 49 5 -2.538120e+003 -2.554201e+003 -2.396515e+003

70 53 3 -2.503455e+003 -2.552168e+003 -2.396515e+003

80 57 6 -2.510628e+003 -2.538120e+003 -2.396515e+003

90 61 5 -2.501079e+003 -2.529846e+003 -2.396515e+003

100 69 10 -2.509426e+003 -2.517955e+003 -2.400519e+003

110 71 -2.230403e+003 pr -2.510628e+003 -2.400519e+003

120 79 8 -2.492925e+003 -2.508806e+003 -2.400519e+003

130 83 3 -2.472003e+003 -2.503743e+003 -2.400519e+003

140 87 INFEASIBLE pr -2.498039e+003 -2.400519e+003

150 77 INFEASIBLE pr -2.493722e+003 -2.400519e+003

160 83 -2.365506e+003 pr -2.492530e+003 -2.400519e+003

170 73 -1.059496e+003 pr -2.481015e+003 -2.400519e+003

180 71 INFEASIBLE pr -2.464314e+003 -2.400519e+003

190 65 7 -2.459392e+003 -2.462899e+003 -2.400519e+003

200 63 INFEASIBLE pr -2.459392e+003 -2.400519e+003

210 57 -2.372111e+003 pr -2.447657e+003 -2.400519e+003

220 57 5 -2.438681e+003 -2.440490e+003 -2.400519e+003

230 51 -2.365088e+003 pr -2.428286e+003 -2.400519e+003

240 41 -2.159388e+003 pr -2.426692e+003 -2.400519e+003

250 41 INFEASIBLE pr -2.423521e+003 -2.403186e+003

260 37 4 -2.415065e+003 -2.420068e+003 -2.403186e+003

270 35 INFEASIBLE pr -2.415065e+003 -2.403186e+003

280 29 7 -2.409156e+003 -2.411555e+003 -2.403186e+003

290 37 -2.401782e+003 pr -2.409435e+003 -2.408831e+003

300 37 -2.407655e+003 pr -2.409276e+003 -2.408831e+003

310 29 -2.407099e+003 pr -2.408980e+003 -2.408831e+003

EXIT: Optimal solution found.

Final Statistics for MIP

------------------------

Final objective value = -2.40883105443170e+003

Final integrality gap (abs / rel) =-5.33e-009 / -2.21e-012 (-0.00)

# of nodes processed = 319

# of subproblems processed = 319

Total program time (secs) = 1597.213 ( 1601.990 CPU time)

Time spent in evaluations (secs) = 1596.660

===========================================================================

>> x

x =

4 0 7 9 0 0 1 0 1 1 0 0 4 141 -1

**Q6=0.93**

Node Left Iinf Objective Best Relaxatn Best Incumbent

------ ------ ------ -------------- -------------- --------------

1 0 13 -2.652640e+003 -2.652640e+003

10 9 11 -2.507822e+003 -2.652292e+003 -1.628768e+003

20 19 6 -2.554592e+003 -2.580182e+003 -2.366382e+003

30 29 5 -2.555567e+003 -2.577425e+003 -2.372400e+003

40 39 5 -2.502605e+003 -2.556158e+003 -2.372400e+003

50 49 4 -2.555169e+003 -2.555338e+003 -2.377239e+003

60 57 5 -2.538120e+003 -2.554201e+003 -2.377239e+003

70 61 3 -2.503455e+003 -2.552168e+003 -2.377239e+003

80 65 5 -2.510628e+003 -2.538120e+003 -2.388155e+003

90 69 5 -2.501079e+003 -2.529846e+003 -2.388155e+003

100 73 11 -2.507933e+003 -2.508241e+003 -2.400519e+003

110 77 9 -2.503877e+003 -2.507286e+003 -2.400519e+003

120 79 8 -2.488381e+003 -2.505259e+003 -2.400519e+003

130 83 9 -2.468761e+003 -2.501489e+003 -2.400519e+003

140 85 6 -2.485015e+003 -2.500230e+003 -2.400519e+003

150 77 INFEASIBLE pr -2.496035e+003 -2.400519e+003

160 67 INFEASIBLE pr -2.488381e+003 -2.400519e+003

170 65 INFEASIBLE pr -2.471701e+003 -2.400519e+003

180 59 -2.384850e+003 pr -2.461495e+003 -2.400519e+003

190 55 INFEASIBLE pr -2.427706e+003 -2.400519e+003

200 49 -2.158035e+003 pr -2.426096e+003 -2.400519e+003

210 49 2 -2.408915e+003 -2.409495e+003 -2.403186e+003

\* 210 49 r -2.408831e+003

220 49 -2.407254e+003 pr -2.409136e+003 -2.408831e+003

230 41 -2.408729e+003 pr -2.408859e+003 -2.408831e+003

EXIT: Optimal solution found.

Final Statistics for MIP

------------------------

Final objective value = -2.40883105443170e+003

Final integrality gap (abs / rel) =-4.27e-009 / -1.77e-012 (-0.00)

# of nodes processed = 231

# of subproblems processed = 231

Total program time (secs) = 1044.702 ( 1044.832 CPU time)

Time spent in evaluations (secs) = 1045.195

===========================================================================

>> x

x =

4 0 7 9 0 0 1 0 1 1 0 0 4 141 -1

**Q6=0.925**

Node Left Iinf Objective Best Relaxatn Best Incumbent

------ ------ ------ -------------- -------------- --------------

1 0 13 -2.652573e+003 -2.652573e+003

10 9 11 -2.578682e+003 -2.580606e+003 -1.542864e+003

20 19 7 -2.555169e+003 -2.578541e+003 -2.309245e+003

30 29 6 -2.556722e+003 -2.577297e+003 -2.342013e+003

40 35 6 -2.541490e+003 -2.556279e+003 -2.342013e+003

50 43 5 -2.554858e+003 -2.555278e+003 -2.376162e+003

60 51 3 -2.539215e+003 -2.554732e+003 -2.376162e+003

70 55 5 -2.536017e+003 -2.551261e+003 -2.376162e+003

80 61 5 -2.513009e+003 -2.541474e+003 -2.388155e+003

90 69 INFEASIBLE pr -2.533559e+003 -2.388155e+003

100 67 -2.379876e+003 pr -2.512934e+003 -2.388155e+003

110 69 INFEASIBLE pr -2.502605e+003 -2.389541e+003

120 77 8 -2.488120e+003 -2.501556e+003 -2.389541e+003

130 79 7 -2.486905e+003 -2.499588e+003 -2.389541e+003

140 81 7 -2.484096e+003 -2.498718e+003 -2.389541e+003

150 81 INFEASIBLE pr -2.495888e+003 -2.389541e+003

160 75 INFEASIBLE pr -2.488120e+003 -2.389541e+003

170 73 INFEASIBLE pr -2.482084e+003 -2.389541e+003

180 71 -2.356583e+003 pr -2.464541e+003 -2.389541e+003

190 71 5 -2.444097e+003 -2.445590e+003 -2.393736e+003

200 71 -2.301125e+003 pr -2.443203e+003 -2.393736e+003

210 63 INFEASIBLE pr -2.427495e+003 -2.395132e+003

220 57 -2.126685e+003 pr -2.423894e+003 -2.395873e+003

230 57 4 -2.408866e+003 -2.410203e+003 -2.403186e+003

\* 230 57 r -2.406527e+003

240 57 -2.408799e+003 pr -2.408866e+003 -2.408831e+003

EXIT: Optimal solution found.

Final Statistics for MIP

------------------------

Final objective value = -2.40883105443170e+003

Final integrality gap (abs / rel) =-7.10e-009 / -2.95e-012 (-0.00)

# of nodes processed = 243

# of subproblems processed = 243

Total program time (secs) = 1244.915 ( 1248.273 CPU time)

Time spent in evaluations (secs) = 1243.672

===========================================================================

>> x

x =

4 0 7 9 0 0 1 0 1 1 0 0 4 141 -1