Test Data for Program Assignment 3

(1)
Input:

maximize $10x_1 + 10x_2 + 12x_3 + 18x_4$

s.t. $2x_1 + 4x_2 + 6x_3 + 9x_4 \leq 15$

$x_1, x_2, x_3, x_4 \in \{0, 1\}$

Output:

optimal solution: 38

$x_1 = 1, x_2 = 1, x_3 = 0, x_4 = 1$ (for reference only)

ratio $= 1 - 11/31 = 0.645161$ (for reference only)

(2)
Input:

maximize $7x_1 + 10x_2 + 12x_3 + 18x_4 + 12x_5 + 18x_6$

s.t. $2x_1 + 4x_2 + 6x_3 + 9x_4 + 4x_5 + 7x_6 \leq 18$

$x_1, x_2, x_3, x_4, x_5, x_6 \in \{0, 1\}$

Output:

optimal solution: 47

$x_1 = 1, x_2 = 1, x_3 = 0, x_4 = 0, x_5 = 1, x_6 = 1$ (for reference only)

ratio $= 0.897638$ (for reference only)