

TEST CASES FOR SIMPLEX METHOD

1. $\max : Z = x_1 + 3x_2$

subject to

$$x_1 + x_2 \leq 10$$

$$x_1 + 4x_2 \leq 16$$

$$x_1, x_2 \geq 0$$

Maximum value of the objective function is 14

For $x_1=8$ and $x_2=2$.

2. $\max : z = x_1 + 3x_2$

subject to

$$x_1 + x_2 \leq 100$$

$$x_1 + 2x_2 \leq 110$$

$$x_1 + 4x_2 \leq 160$$

$$x_1, x_2 \geq 0$$

Maximum value of the objective function is 135

For $x_1=60$ and $x_2=25$.

3.

$$\max : z = 2x_1 + 3x_2$$

subject to

$$2x_1 + 3x_2 = 12$$

$$2x_1 + x_2 \geq 8$$

$$x_1, x_2 \geq 0$$

Maximum value of the objective function is 12

For $x_1=0$ and $x_2=4$.

4.

$$\max : Z = 2x_1 + 8x_2$$

Subject to

$$x_1 + x_2 \leq 10$$

$$x_1 + 4x_2 \leq 16$$

$$x_1, x_2 \geq 0$$

Maximum value of the objective function is 32

For $x_1=0$ and $x_2=4$.

