LAB -5

Write code to solve the following LPP by Two Phase method. Print the input and solutions and optimized value. Your output must have all the tables. Submit your code file and output file for each question separately.

1. **MIN Z** = 2X1 + 9X2 + X3 Subject to
   X1 + 4X2 + 2X3 ≥ 5
   3X1 + X2 + 2X3 ≥ 4
   and X1, X2, X3 ≥ 0 .

2. **MIN Z** = 4X1 + 2X2 Subject to
   3X1 + X2 ≥ 27
   X1 + X2 ≥ 21
   X1 + 2X2 ≥ 30
   and X1, X2 ≥ 0.

3. **MAX Z** = - 2X1 - X2 Subject to
   3X1 + X2 = 3
   4X1 + 3X2 ≥ 6
   X1 + 2X2 ≤ 4
   and X1, X2 ≥ 0.

4. **MAX Z** = 3X1 - X2 Subject to
   2X1 + X2 ≥ 2
   X1 + 3X2 ≤ 3
   X2 ≤ 4
   and X1, X2 ≥ 0.

5. **MAX Z** = X1 + 2X2 + 3X3 - X4 Subject to
   X1 + 2X2 + 3X3 = 15
   2X1 + X2 + 5X3 = 20
   X1 + 2X3 + X3 + X4 = 10
   and X1, X2, X3, X4 ≥ 0.

6. **MAX Z** = - 2X1 + X2 + 3X3 Subject to
   X1 - 2X2 + 3X3 = 2
   3X1 + 2X2 + 4X3 = 1
   and X1, X2, X3 ≥ 0.

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