SSN College of Engineering

Department of CSE

Exercise 10

1. Solve the optimization function using graphical method

$$Maximize \quad 2x_1 + 5x_2$$
$$Subject \quad to \quad x_1 + x_2 \leq 6$$
$$x_2 \leq 6, \quad 3x_1 + 2x_2 \leq 9$$

2. Implement 8 Queens backtracking algorithm
3. Use Simplex method to solve the farmers problem given below:
   A farmer has a 320-acre farm on which she plants two crops: rice and wheat. For each acre of rice planted, her expenses are Rs.50 and for each acre of wheat planted, her expenses are Rs.100. Each acre of rice requires 100 quintals of storage and yields a profit of Rs.60. Each acre of wheat requires 40 quintals of storage and yields a profit of Rs.90. If the total amount of storage space available is 19,200 quintals and the farmer has only Rs.20,000 on hand, how many acres of each crop should she plant to maximize her profit? What will her profit be if she follows this strategy?