Date: 9th Aug 2019 **LAB – 2**

Questions:

1. Find one general solution and 5 particular solutions for given equations: (q1.cpp)
   1. 21x + 14y = 35
   2. 20x + 5y = 100
   3. 97x + 35y = 13
   4. 30x + 50y = 170
2. Write the code to find multiplicative inverse of a matrix. (q2.cpp)

3 5 7 2

1 4 7 2

6 3 9 17

13 5 4 16

1 0 0

5 1 0

0 0 1

3 4 6

1 1 8

5 8 3

1. Find solution for single variable linear equation for the following (q3.cpp)
   1. 3x ≡ 4 (mod 5)
   2. 4x ≡ 4 (mod 6)
   3. 9x ≡ 12 (mod 7)
   4. 256x ≡ 442 (mod 60)
2. Find the solution for the following set of linear equation: (q4.cpp)
   1. 3x + 5y + 7z ≡ 3 (mod 16)

x + 4y + 13z ≡ 5 (mod 16)

2x + 7y + 3z ≡ 4 (mod 16)

* 1. 3x + 5y ≡ 4 (mod 5)

2x + y ≡ 3 (mod 5)

1. Implement playfair cipher. (playfair.cpp)