Assignment-1
Cryptography and Network Security

[Total marks - 20]

[**Instructions**: Each question carries 10 marks. Please send your programs (C/C++) and output files to the email id: **cryptomathsiitkgp@gmail.com** by **18/09/2020**. Your **Roll No.** and **Name** must be mentioned.]

1. ***Program for Playfair cipher***.
   Write a program StrOut=PlayfairCrypt(str,keystr) that inputs a string str of plaintext in lowercase English letters and another such string keystr representing a key. The output StrOut should be the corresponding ciphertext (in uppercase letters) after the Playfair cipher when key keystr is applied to the plaintext. Then use your program to redo the computations of

   (i) **the shipment will arrive at noon**

   (ii) **lay low until friday**

   (iii) **always use the back door**

   (iv) **the phone is bugged**

2. ***Program for Decryption of the Playfair cipher***. Write a program strOut=PlayfairDeCrypt(STR,keystr) that inputs a string STR of ciphertext in uppercase English letters and another lowercase string keystr representing a key. The output strOut should be the corresponding plaintext (in lowercase letters) before the Playfair cipher with key keystr is applied to it. Then use your program to redo the computations of

   (i) **RBIABDIGTPSZ**

   (ii) **QMBGDTYASKCZXKPKCIDUICTPYBQM**

(iii) **REBSLUMNGYXYNBLFCR**

(iv) **QTBPCPSCDZLXYBQTDMYIKDTKUFGEQD SIYEITBQGYGDGAKW**