Practical -4

1. Write a program to implement **Vigenere** cipher and Decipher.

   Input: Plain text, Key
   Output: Cipher text

   Equation:1 Ci=(Pi+K(i mod m))MOD 26, i=0,1,2,...,L-1
   Equation:2 Pi=(Ci-K(i mod m))MOD 26, where m is the length of Key, i=0,1,2,...,L-1

   Here m is the length of Key and L is the length of the plain-text.
   Assume that Key is “acegi” and Plaintext is “ATTACKDONELEAVEFAST”.

   Plain-text: ATTAC KDONE LEAVE FASTX
   Key: ACEGI ACEGI ACEGI ACEGI

   Here, for first place p1= “A”=0, K(1 mod 5)=K1= “A”=0
   Therefore, C1=0-->'A'
   Repeat the above step till the length of plain-text.

2. Write a program to implement **Auto-key** cipher and Decipher.

   Cipher:
   Input: Plain text, Sub-Key
   Output: Cipher text

   Equation:1 -->Ci=(Pi+Ki) MOD 26 , i=0,1,2,....L-1 **where L is the length of sub-key.**
   -->Ci=(Pi+P(i-L))MOD 26, i=L,L+1, L+2,....., N -1, **N is the length of Plain-text**

   De-Cipher:
   Input: Cipher text, Sub-Key
   Output: Plain-text
   Equation:2 -->Pi=(Ci-Ki) MOD 26 , i=0,1,2,....L-1 **where L is the length of sub-key**.
   -->Pi=(Ci-P(i-L))MOD 26, i=L,L+1, L+2,....., N-1 , **N is the length of Plain-text**