## LAB-3

ROII NO. : CE 146 Name: Shingard Shubbam P. Id NO: 19 CE UO 5 1569 Est ( Leg may sport of state of AIM: collète el progral to implement \* 1) Pigg Peile Cipher 2) Autokey cipher Playfeir Cipher : 1) Harchide & bits 1 Stact. h> ( 45ing namespace std) erry 5 to 8 int Keymatrix[5][5]; class pointer 5 Public: int  $\infty$ ; Com the girls of the 35 pointed find In matrix ( char a , char b, pointer PEJ) { if (a == ' J') q = `I'; int 1, 3; FOG (1=0; 165; 1++) FOR (1=0; 1<5; 1++)

```
· if ( Key matrioc [i] [1] = = a) $
                                                 PCPJ. ∞ = is
                   PCOJ. y = i;
                                                   STEEDING OF THE STATE OF THE ST
                                             else if ( Key matrix [i] [i] == b) &
                           P[I](x=i;
                                               P[1].y = i;
                                            May parlone
String removes faces (5tring str)
 5
                                    sthe erase (remove (sthe begin (), strende).
                                                                                   1), sth. end());
                                          RELYRN 5th;
    3
       int
                                        mode (int a, int n) &
                                            int modeN = a % n;
                                              if (moden (0)
                                               modeN + = n;
                                           retyrn moden;
```

```
void generate matrioci (string key) &
                                                                                            int i, i, K=0, il= Key, length();
                                                                                                       Char 5 = K.A';
                                                                                                       FOR (1=0; 125; 1++) $
                                                                                                          for (3=0; 3253) 5
                                                                                                                                   ic (KLI) &
                                                                                                                             Key matrix [i] [i] = Key [K];
          · (1) - K++ ; i++;
                                           E. Ca , Trife Bern of B. C. Carrier
                                                                                                  else ş
                                                                 COLUMN TENEDON STATE OF SHE
                                            if ( key, find(5) == $5thing:
     PARTY OF A PROPERTY OF FIRE OF A PROPERTY OF
                                            Keymatria [i][j] = 5;
                                                                                                                                                                                                              5++; 1++;
                                 A point of the property of
                 Della de la companya de la esta d
                                 Other January Landyne
                        elengente un grien
  interest in the company of the contract of
of course
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the part of the pa

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string encrypt (string plain Text) &
      int l= Plain Text; length(), i, i",
      string encrypt Text;
       if (1 1, 2 1 = 0)
          Plain Text [l] = 'z';
       FOR (1=0; iclis i++) &
       Pointer P[2];
           find In matrix (toupper (Plain Text [i]),
              to Appel (Prain Text [8iH], P);
           itt;
           ip (P[0]. x = = P[1]:x) 5
           encaypt Text += Keymatrix [P[0].oc]
            [mode(PCOJ.y+1, 5)];
             encrypt Text + = Key matrix [PEOJ.X]
                  [made (P[1].y+1,5)];
           else if (PCoJ.y == PCIJ.y) {
               encrypt Text += key mat / ix [model
                    P.COJ. X+1, 5) ] [P[0]. Y];
               enchypt Text += key mathix [mode (
                    P[1]. x+1,5)][P[0].y];
            3
            e15e 2
               encrypt Text += Key matrix [p[0]. ]
                                      [PE1].9] 3
               enchypt Text += Key matrix [P[1].x]
                                    [PEOJ. 4];
       return encrypt Teset;
```

```
3
```

```
string decrept (string cipher Text) {
       intle = eipher Text. length (), i, ii
       string decrypt Text;
       FOR (1=0; 1/1; 1++) 7
           Pointer P[2] 3
           Find In matrix (cipher Teset [i], cipher Text
          e (1) Citiza e Citaz, p) 3
       ittis
    if (P[0] x == P[1];x) {
decryptText += Keymatrix [Pro].x]
                       [mode (PCOJ.4-1,5)];
                dechyptText += Keymatrix [P[0], x]
                       [mode(P[1], y-1, 5)];
             else if (PCOJ.y == P[J].y) $
                decrypt Text += key materia [mode (
              P[o]. ∝-1,5)][P[o].y];
to to be to the
                decitypt Text + = key matrix (mode (
                    P[1].0(-1,5)] [P[0].9];
             e15e 5
decrypt Text + = Key mat rix [PEOJ. X]
             [PC1].yJ
               decrypt Text += Key mathia [P[I], or]
                                   [P. [O] . Y]
        transform (electype Text, begin (), decrype Text.
                  end(), decreypt Text, begin(), " taloury
```

RETURN LECRYPT TEDGE 1

```
int main () ?
      String Plain Text, key = "mon ARCHY";
            generate matrix (Key);
            · cout << "Plain Text;";
            getline (cin, Plain Text);
     Plain Text = Remove spaces (Plain Text);
        string encrypt Text = encrypt ( plain Text);
         contice" cipher Text!" LL encryptText
         << endl << "peckyptText:" <<</pre>
       decky pt (encky pt Text);
      Test - case : I ;
       In Put: Plain Text: Pluy fair
        OYEPUT: CIPMER TEXT : CIPNBIOKA
     Deckypt Text: Play fail.
   Test case - 2:
       Input: Plain Text: Shybram X Shingald
OUTPUT: CIPHER TESCT: PBX CBOAUPB & AINSM
             Deckypt Text: shubhamxshingan
```

```
Autokey eipher:
        # Include & bits/ 5td Ett. h>
         using names pace std;
        string encrypt Cint KCy, string Plain Text)?
             String · CiPher Teact;
      int hi, teatmap;
         thumsform ( Plain Text. begin(), Plain Text.
end (), Picin Text. begin (), ":- toyphen)
 POR (1=0) ix Plain Text: length(); itt) }
text map = Plain Text Cij - A';
              eiphertext += mode (text map + key, 26)
                         + 'A' '5
                  Key = textmap;
                      9 - 35 to 1 - 35 - VI
               3
      Letten cipher Text;
 VIW XX ASSIMUM
        string decrypt ( int key, string eigher Text)?
              steing Plain Text;
               int i, text map;
         por (i=0; icciphertext. length(); i++) ?
               text map = Cipher Text [1] - A';
      plain Text += mode (text map-key,
      1000 + 'e';
                  Key = pain Text (i) - 'd'3
                 3
             retien plain rext;
```

int main () E String Plain Text; -cont co" Enter plain Text."; ein >> Plain Text; int key; COUT (( " Enter Key:") ein >> Key: string encrypt Text = encrypt ( (Key) plain Text); COUT << " ENCRYPT Text: " << encrypt Text 24 decrypt Thoux (key enryptText); setyem o; > Test case - 1; Input: chto key cipher key =15 OUTPUT: ENCRYPT TEXT : PUNHYOCA KX WLV Decrept Text: Chto key cipher Different collect to the state of the -> Test -cose -2: IMPHE: Shybram Key = 20 output: Encrypt Text: MZBVIHM Decrypt text: Shubham