**PROGRAM-5**

**WAP to implement transposition cipher with key in C++.**

#include <iostream>

#include <string.h>

using namespace std;

int main()

{

char str1[100],str2[100];

int ln=0;

int arr[20];

cout << "\n Enter String(without space) : ";

cin >> str1;

ln = strlen(str1);

str1[ln + 1] = '\0';

int n;

cout<<"\nEnter the no. of key characters:";

cin>>n;

cout << "\n Enter key: ";

for(int i=0;i<n;i++)

cin>>arr[i];

int iLen = n;

int cnt = 0;

// Encryption

for (int z = 0; z < iLen; z++)

{

for (int x = 0; x <= (ln/2)-1; x++)

{

if ((arr[z] + iLen \* x) <= ln)

{

str2[cnt++] = str1[(arr[z] + iLen \* x) - 1];

}

}

}

str2[ln] = '\0';

int nl = 1;

for (int i = 0; i < iLen; i++)

cout << arr[i] << " ";

cout << "\n-------------------------------";

cout << "\n";

for (int i = 0; i < ln; i++)

{

if (i == iLen \* nl)

{

cout << "\n" << str1[i] << " ";

nl++;

}

else

cout << str1[i] << " ";

}

cout << "\n\n" << "Encrypted String : " << str2;

// Decryption

cout << "\n";

char strtmp[100];

cnt = 0;

for (int z = 0; z < iLen; z++)

{

for (int x = 0; x <= (ln/2)-1; x++)

{

if ((arr[z] + iLen \* x) <= (ln))

strtmp[arr[z] + (iLen \* x) - 1] = str2[cnt++];

}

}

strtmp[ln] = '\0';

cout << "Decrypted String : " << strtmp << "\n\n";

return 0;

}

**OUTPUT-5**

Enter String(without space) : delhicollegeofengineering

Enter the no. of key characters:3

Enter key: 3 1 2

3 1 2

-------------------------------

d e l

h i c

o l l

e g e

o f e

n g i

n e e

r i n

g

Encrypted String : lcleeiendhoeonnrgeilgfgei

Decrypted String : delhicollegeofengineering