

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 : lcleeiendhoeonnrgelgfgei

Decrypted String : delhicollegeofengineering