

PROGRAM-3

Write a program to implement Hill cipher in C++.

```
#include<iostream>

#include<string.h>

using namespace std;

int main()

{ char ch,str[50],key[50];

int n,i,j,pt[3][3],count=0,keym[3][3],ct[3][3],k,hmph;

cout<<"Enter plaintext 9 characters\n";

cin>>str;

i=strlen(str);

if(strlen(str)<9)

{while(i<9)

str[i]='x';

i++;

}

for(i=0;i<3;i++)

for(j=0;j<3;j++)

{pt[j][i]=str[count]-65;

count++;}

for(i=0;i<3;i++)

{cout<<"\n";

for(j=0;j<3;j++)

{cout<<pt[i][j]<<"\t";}

}

cout<<"\n enter key (9 characters)\n";

cin>>key;
```

```

count=0;
for(i=0;i<3;i++)
for(j=0;j<3;j++)
{keym[i][j]=key[count]-65;
count++;}
for(i=0;i<3;i++)
{cout<<"\n";
for(j=0;j<3;j++)
{cout<<keym[i][j]<<"\t";}
}
hmp=0;
while(hmp<3)
{for(i=0;i<3;i++)
{
for(j=hmp;j <hmp+1;j++)
{
ct[i][j] = 0;
for(k=0;k< 3;k++)
{
ct[i][j] = ct[i][j] + keym[i][k] * pt[k][j];
}
}
}
hmp++; }
cout<<"\n ENCRYPTED TEXT IS  : ";
for(i=0;i<3;i++)
{
for(j=0;j<3;j++)
{
ct[j][i]=ct[j][i]%26+65;

```

```
        ch=(char)ct[j][i];  
        cout<<ch;}  
}  
return 0;  
}
```

OUTPUT-

Enter plaintext 9 characters

computing

34 47 40

46 52 45

44 51 38

enter key (9 characters)knowledge

42 45 46

54 43 36

35 38 36

ENCRYPTED TEXT IS : KQYEGXTDG