**PROGRAM: RSA ALGORITHM**

#include<stdio.h>

#include<conio.h>

#include<math.h>

void main()

{

Int p,q,n,e=7,m,fi,c,i,temp,j,c1=1;

clrscr();

printf("Enter the value of p");

scanf("%d",&p);

printf("Enter the value of q");

scanf("%d",&q);

printf("calculating value of n:\n");

n=p\*q;

printf("%d",n);

printf("Calculating value of fi:");

fi=(p-1)\*(q-1);

printf("\n");

printf("%d",fi);

printf("So public key Pk=(e,n=\n)");

printf("{%d,%d}",e,n);

printf("\n");

printf("\*\*\*\*Performing Encryption \*\*\*\*\n");

printf("Enter the value of plain text m:\n");

scanf("%d",&m);

for(i=1;i<=e;i++)

c1=c1\*(m)%n;

c=c1%n;

printf("cipher text c=%d",c);

getch();

}

/\* **OUTPUT:**

Enter the value of p =17

Enter the value of q =11

calculating value of n=187

Calculating value of fi=160

So public key Pk=(e,n)={7,187}

\*\*\*\*Performing Encryption \*\*\*\*

Enter the value of plain text m:88

cipher text c=11

\*/