```
}
```

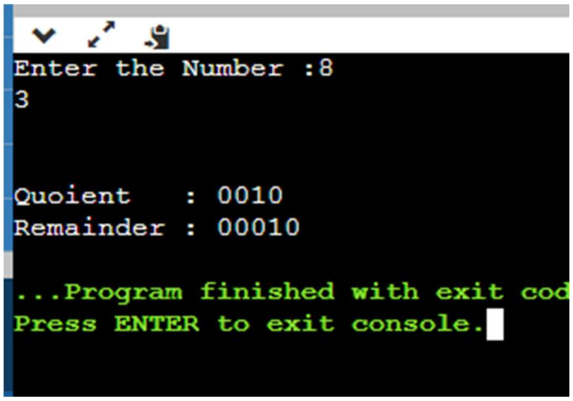
7.INTEGER RESTORATION DIVISION:

Prpgram:

```
#include<stdlib.h>
#include<stdio.h>
int acum[100]={0}          ;
void add(int acum[],int b[],int n);
int q[100],b[100];
int main()
{
int x,y;
printf("Enter the Number :");
scanf("%d%d",&x,&y);
int i=0;
while(x>0||y>0)
{
if(x>0)
{
q[i]=x%2;
x=x/2;
}
else
{
q[i]=0;
}
if(y>0)
{
b[i]=y%2;
y=y/2;
}
else
```

```
{
b[i]=0;
}
i++;
}

int n=i;
int bc[50];
printf("\n");
for(i=0;i<n;i++)
{
if(b[i]==0)
{
bc[i]=1;
}
else
{
bc[i]=0;
}
}
bc[n]=1;
for(i=0;i<=n;i++)
{
if(bc[i]==0)
{
bc[i]=1;
i=n+2;
}
else
{
bc[i]=0;
}

}

int l;

 b[n]=0;

int k=n;

int n1=n+n-1;

int j,mi=n-1;

for(i=n;i!=0;i--)

{

for(j=n;j>0;j--)

{

acum[j]=acum[j-1];


}

acum[0]=q[n-1];

for(j=n-1;j>0;j--)

{

q[j]=q[j-1];

}


add(acum,bc,n+1);

if(acum[n]==1)

{

q[0]=0;

add(acum,b,n+1);

}

else

{

q[0]=1;

}

}
```

```
printf("\nQuoient   : ");

for(  l=n-1;l>=0;l--)
{
printf("%d",q[l]);

}
printf("\nRemainder : ");
for( l=n;l>=0;l--)
{
printf("%d",acum[l]);
}
return 0;
}
void add(int acum[],int bo[],int n)
{
int i=0,temp=0,sum=0;
for(i=0;i<n;i++)
{
sum=0;
sum=acum[i]+bo[i]+temp;
if(sum==0)
{
acum[i]=0;
temp=0;
}
else if (sum==2)
{
acum[i]=0;
temp=1;
}
else if(sum==1)

{

acum[i]=1;

temp=0;

}

else if(sum==3)

{

acum[i]=1;

temp=1;

}

}

}
```



```
Enter the Number :8
3


Quoient    : 0010
Remainder : 00010

...Program finished with exit cod
Press ENTER to exit console.
```