Experiment 11

RSA encryption

```
clc; clear all; close all
p=input('enter first prime number p: ');
q=input('enter second prime number q: ');
n=p*q
phi=(p-1)*(q-1)
e=input('enter encryption key e: ');
if gcd(phi,e)~=1
    disp(['this value of e is incorrect, d is not found'])
else
    m=input('enter message in number: ');
    c=0;
    f=1;
    b= fliplr(dec2bin(e));
    k=length(b);
    for i=k:-1:1
        c=c*2;
        f=mod(f*f,n);
        if b(i)=='1'
            c=c+1;
            f=mod(f*m,n);
        end
    end
        disp(['C= ' num2str(f)])
end
```