# Assignment-7

**Iterative control statements (parts-2)**

1.Write a program to find the Nth term of the Fibonacci series

#include<stdio.h>

int main(){

 int i,n,a=0,b=1,c;

 printf("enter a number:");

 scanf("%d",&n);

 if(n==0|| n==1)

 printf("%d",n);

 else

 c=a+b;

 for(i=3;i<=n;i++){

   a=b;

   b=c;

   c=a+b;

 }

 printf("%d",b);

  return 0;

}

2.write a program to print first N terms of Fibonacci series.

#include<stdio.h>

int main(){

 int i,n,a=0,b=1,c=0;

 printf("enter a number:");

 scanf("%d",&n);

 if(n==0|| n==1)

 printf("%d",n);

 else

 c=a+b;

 for(i=3;i<=n;i++){

   a=b;

   b=c;

   c=a+b;

  printf("%d",c);

 }

  return 0;

}

3. write a program to check whether a given number is there in the Fibonacci series or not

#include<stdio.h>

int main(){

 int i,n,a=0,b=1,c=0;

 printf("enter a number:");

 scanf("%d",&n);

 if(n==0 || n==1)

 printf("%d",n);

 for(i=3;i<=n;i++){

   a=b;

   b=c;

   c=a+b;

 }

 if(c==n){

   printf("Finocci series",c);

 }

 else

 printf("not Finocci series");

  return 0;

}

4. write a program to calculate HCF of two numbers

#include<stdio.h>

int main(){

 int i,a,b,hcf;

 printf("enter two number:");

 scanf("%d%d",&a,&b);

 for(i=1;i<=a && i<=b ;i++){

  if(a%i==0 && b%i==0)

  hcf=i;

 }

 printf("HCF= %d",hcf);

  return 0;

}

5. write a program to check whether two given numbers are co-prime numbers or not

#include<stdio.h>

int main(){

 int i,a,b,hcf;

 printf("enter two number:");

 scanf("%d%d",&a,&b);

 for(i=1;i<=a && i<=b ;i++){

  if(a%i==0 && b%i==0)

  hcf=i;

 }

 if(hcf==1){

   printf("co-prime number");

 }

 else

 printf("not co-prime number");

  return 0;

}

6. write a program to print all prime numbers under 100

#include<stdio.h>

int main(){

 int i,n,c;

 for(n=1;n<=100;n++){

   c=0;

   for(i=2;i<=n/2;i++){

     if(n%i==0)

     {

       c++;

       break;

     }

   }

    if(c==0&& n!=1)

    {

      printf("%d",n);

    }

 }

  return 0;

}

7. write a program to print all prime numbers between two given numbers

#include<stdio.h>

int main(){

 int i,j,a,b,c;

 printf("enter two numbers:");

 scanf("%d%d",&a,&b);

 printf("prime numbers between %d and %d numbers:",a,b);

 for(i=a+1;i<b;i++){

   c=0;

   for(j=2;j<=i/2;j++){

     if(i%j==0)

     {

       c=1;

       break;

     }

  if(c==0){

    printf("%d",i);

  }

   }

 }

  return 0;

}

8. write a program to find next prime number of a given number.

#include<stdio.h>

int main(){

int n,i,j,c=0;

printf("Enter a prime number:");

scanf("%d",&n);

for(i=n+1;i<=100;i++){

       for(j=2;j<i;j++){

         if(i%j==0){

                c=1;

                break;

         }

       }

       if(c==0)

        printf("next prime number %d",i+1);

 }

return 0;

}

9. write a program to check whether a given number is an Armstrong number or not

#include<stdio.h>

int main(){

int n,i,sum,r;

printf("Enter a number:");

scanf("%d",&n);

for(i=n,sum=0;i>0;i=i/10){

    r=i%10;

    sum=sum+(r\*r\*r);

}

if(n==sum)

printf("this is a armstrong number");

else

printf("this is not armstrong number");

return 0;

}

10. write a program to print all Armstrong numbers under1000

#include<stdio.h>

int main(){

int n,i,sum,a,b,c;

for(i=1;i<=1000;i++){

    n=i;

    if(n<=9)

    printf("%d",n);

    else{

       a=(n%10,3);

       b=((n%100-n%10)/10,3);

       c=((n%1000-n%100)/100,3);

      sum=((a\*a\*a)+(b\*b\*b)+(c\*c\*c));

      if(sum==i)

      printf("%d",i);

    }

}

}