Assignment-10: Level up with loops

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

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

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

4. Write a program to calculate HCF of two numbers

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

6. Write a program to print all Prime numbers under 100

7. Write a program to print all Prime numbers between two given numbers

8. Write a program to find next Prime number of a given number

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

10. Write a program to print all Armstrong numbers under 1000

1

#include<stdio.h>

int main(){

int n,a=-1,b=1,i,c;

printf("Enter the Nth terms ");

scanf("%d",&n);

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

c=a+b;

a=b;

b=c;

}

printf("Nth term of fibonacci series is %d",c);

}

2

#include<stdio.h>

int main(){

int n,a=-1,b=1,c,i;

printf("Enter the no. of terms Value ");

scanf("%d",&n);

printf("\n");

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

c=a+b;

printf("%d ",c);

a=b;

b=c;

}

printf("\n");

}

3

#include<stdio.h>

int main(){

int n,a=-1,b=1,c,i;

printf("Enter the no. to check Fibonacci ");

scanf("%d",&n);

for(i=1;n!=0;i++){

c=a+b;

if(c==n){

printf("%d is %d term in the series ",n,i);

break;

}

if(c>n){

printf("%d is not in the series ",n);

break;

}

a=b;

b=c;

}

}

4

#include<stdio.h>

int main(){

int n1,n2,h;

printf("Enter the two no find the HCF ");

scanf("%d %d",&n1,&n2);

for( h=n1<n2?n1:n2 ; h>=1 ; h-- ) {

if(n1%h==0&&n2%h==0)

break;

}

printf("%d and %d HCF is %d",n1,n2,h);

}

5

//Write a program to check whether two given numbers are co-prime numbers or not

#include<stdio.h>

int main(){

int a,b,co;

printf("Enter the to no. to check co-prime ");

scanf("%d %d",&a,&b);

printf("\n");

for(co=a<b?a:b;co>=1;co--){

if(a%co==0&&b%co==0)

break;

}

if(co==1)

printf("%d and %d is co-prime %d",a,b,co);

else

printf("Not co-prime ");

}

6

//Write a program to print all Prime numbers under 100

#include<stdio.h>

int main(){

int l=2,x,u,i;

printf("Enter the no of terms ");

scanf("%d",&u);

for(x=l;x<=u;x++){

for(i=2;i<x;i++){

if(x%i==0)

break;

}

if(i==x)

printf("%d ",x);

}

}

7

//Write a program to print all Prime numbers between two given numbers

#include<stdio.h>

int main(){

int l,u,i,x;

printf("Enter the two no. ");

scanf("%d %d",&l,&u);

for(x=l;x<=u;x++){

for(i=2;i<x;i++){

if(x%i==0)

break;

}

if(i==x)

printf("%d ",x);

}

}

8

// Write a program to find next Prime number of a given number

#include<stdio.h>

int main(){

int n,x,i;

printf("Enter a number ");

scanf("%d",&n);

for(x=n+1; ; x++){

for(i=2;i<x;i++){

if(x%i==0)

break;

}

if(i==x){

printf("Next prime number is %d ",x);

break;

}

}

}

9

// Write a program to check whether a given number is an Armstrong number

#include<stdio.h>

int main(){

int x,y,n=0,i,s=0,d,p;

printf("Enter a number ");

scanf("%d",&x);

y=x;

while(y){

y=y/10;

n++;

}

for(y=x;y;y=y/10){

d=y%10;

for(p=1,i=1;i<=n;i++)

p=p\*d;

s=s+p;

}

if(s==x)

printf("%d is an Armstrong number ",x);

else

printf("%d is not an Armstrong number",x);

}

10

//Write a program to print all Armstrong numbers under 1000

#include<stdio.h>

int main(){

int x,y,n,i,s,d,p;

//printf("Enter a number ");

//scanf("%d",&x);

for(x=1;x<=1000;x++)

{

n=0;

y=x;

while(y){

y=y/10;

n++;

}

for(y=x,s=0;y;y=y/10){

d=y%10;

for(p=1,i=1;i<=n;i++)

p=p\*d;

s=s+p;

}

if(s==x)

printf("%d ",x);

}

}