**Assignment - 7 A Job Ready Bootcamp in C++, DSA and IOT MySirG**

**Iterative Control Statements (Part - 2)**

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

#include<stdio.h>

int main()

{

int prev=-1,curr=1,next = 0,n,i;

printf("Enter a number :");

scanf("%d",&n);

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

{

next = prev + curr;

printf("%d ",next);

prev = curr;

curr = next;

}

printf("\nThe %dth term is : %d ",n,next);

return 0;

}

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

#include<stdio.h>

int main()

{

int prev=-1,curr=1,next = 0,n,i;

printf("Enter a number :");

scanf("%d",&n);

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

{

next = prev + curr;

printf("%d ",next);

prev = curr;

curr = next;

}

return 0;

}

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

#include<stdio.h>

int main()

{

int prev=-1,curr=1,next = 0,n,i;

printf("Enter a number :\n");

scanf("%d",&n);

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

{

next = prev + curr;

prev = curr;

curr = next;

if(next == n)

{

printf("\n%d is in Fibonacci Series:",n);

break;

}

if(next>n)

{

printf("\n%d is not in Fibonacci Series:",n);

break;

}

}

return 0;

}

1. Write a program to calculate HCF of two numbers.

#include<stdio.h>

int main()

{

int a,b,min,hcf,i;

printf("Enter two number :\n");

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

min = a<b? a: b;

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

{

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

{

hcf = i;

}

}

printf("HCf is %d : ",hcf);

return 0;

}

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

#include<stdio.h>

int main()

{

int a,b,min,hcf,i;

printf("Enter two number :\n");

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

min = a<b? a: b;

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

{

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

{

hcf = i;

}

}

if(hcf == 1)

printf("The numbers are co-prime",hcf);

else

printf("The numbers are not co-prime",hcf);

return 0;

}

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

#include<stdio.h>

int main()

{

int n,flag=0,i;

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

{

if(n>1)

{

flag=0;

for(i=2;i<= n/2;i++)

{

if((n%i==0))

flag = 1;

}

if(flag == 0)

printf("%d ",n);

}

}

return 0;

}

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

#include<stdio.h>

int main()

{

int n,flag=0,i,a,b;

printf("Enter two numbers :");

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

for(n=a;n<=b;n++)

{

if(n>1)

{

flag=0;

for(i=2;i<= n/2;i++)

{

if((n%i==0))

flag = 1;

}

if(flag == 0)

printf("%d ",n);

}

}

return 0;

}

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

#include<stdio.h>

int main()

{

int n,flag=0,i,a;

printf("Enter a numbers :");

scanf("%d",&a);

for(n=a;1;n++)

{

if(n>1)

{

flag=0;

for(i=2;i<= n/2;i++)

{

if((n%i==0))

flag = 1;

}

if(flag == 0)

{

printf("Next Prime of %d is : %d ",a,n);

break;

}

}

}

return 0;

}

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

#include<stdio.h>

int main()

{

int n,rem,sum = 0,x,count=0;

printf("Enter a number:");

scanf("%d",&n);

x=n;

while(x>0)

{

x=x/10;

count++;

}

x=n;

while(x>0)

{

rem=x%10;

sum = sum + pow(rem,count);

x=x/10;

}

if(sum==n)

printf("%d Armstrong numbers:",n);

else

printf("%d Not Armstrong numbers:",n);

return 0;

}

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

#include<stdio.h>

int main()

{

int n,rem,sum,x;

printf("All Armstrong numbers under 1000 = ");

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

{

sum=0;

x=n;

while(x>0)

{

rem = x%10;

sum = sum + rem\*rem\*rem;

x = x/10;

}

if(sum == n)

printf("%d ",n);

}

return 0;

}

1. Write a program to find the position of first 1 in LSB.

#include<stdio.h>

int main()

{

int num,count = 0, res;

printf("Enter a number : ");

scanf("%d",&num);

while(num>0){

res = num&1;

count++;

if(res == 1)

{

printf("the position of first '1's in LSB is : %d",count);

break;

}

num = num>>1;

}

return 0;

}