**Assignment - 11** **A Job Ready Bootcamp in C++, DSA and IOT**  **MySirG**

**More on functions in C Language**

1. Write a function to calculate LCM of two numbers. (TSRS)

#include<stdio.h>

int LCM(int,int);

int main()

{

int x,y;

printf("Enter two numbers : ");

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

printf("LCM of %d and %d = %d",x,y,LCM(x,y));

return 0;

}

int LCM(int a,int b)

{

int i;

for(i=1;i<=a\*b;i++)

{

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

break;

}

return i;

}

1. Write a function to calculate HCF of two numbers. (TSRS)

#include<stdio.h>

int HCF(int,int);

int main()

{

int x,y;

printf("Enter two numbers : ");

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

printf("HCF of %d and %d = %d",x,y,HCF(x,y));

return 0;

}

int HCF(int a,int b)

{

int i,lcm;

for(i=1;i<=a\*b;i++)

{

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

break;

}

lcm = i;

return (a\*b/lcm);

}

1. Write a function to check whether a given number is Prime or not. (TSRS)

#include<stdio.h>

int isPrime(int);

int main()

{

int n;

printf("Enter the number : ");

scanf("%d",&n);

isPrime(n);

return 0;

}

int isPrime(int x)

{

int i,flag = 0;

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

{

if(x%i==0)

flag=1;

}

if(flag == 0)

printf("%d is Prime Number",x);

else

printf("%d is not a Prime Number",x);

return 0;

}

1. Write a function to find the next prime number of a given number. (TSRS)

#include<stdio.h>

int nextPrime(int);

int main()

{

int x;

printf("Enter the number : ");

scanf("%d",&x);

nextPrime(x);

return 0;

}

int nextPrime(int x)

{

int n,i,flag;

for(n=x;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 ",x,n);

break;

}

}

}

return 0;

}

1. Write a function to print first N prime numbers (TSRN)

#include<stdio.h>

int prime(int);

int main()

{

int n;

printf("Enter number :");

scanf("%d",&n);

prime(n);

return 0;

}

int prime(int x)

{

int n,flag=0,i;

for(n=1;n<=x;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 function to print all Prime numbers between two given numbers. (TSRN)

#include<stdio.h>

int prime(int,int);

int main()

{

int x,y;

printf("Enter two numbers :");

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

prime(x,y);

return 0;

}

int prime(int a, int b)

{

int n, flag=0,i;

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 function to print first N terms of Fibonacci series (TSRN)

#include<stdio.h>

void fib(int);

int main()

{

int x;

printf("Enter a numbers:");

scanf("%d",&x);

fib(x);

return 0;

}

void fib(int n)

{

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

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

{

next = prev + curr;

printf("%d ",next);

prev = curr;

curr = next;

}

return 0;

}

1. Write a function to print PASCAL Triangle. (TSRN)

#include<stdio.h>

int main()

{

int line;

printf("Enter line number:");

scanf("%d",&line);

pascal(line);

return 0;

}

void pascal(int lines)

{

int i ,j,k,r;

for(i=0;i<=lines;i++)

{

k=1;

r=0;

for(j=0;j<=2\*lines-1;j++)

{

if((j>=lines+1-i) && (j<=lines-1+i) && k)

{

printf("%d ",comb(i-1,r));

k = 0;

r++;

}

else

{

printf(" ");

k=1;

}

}

printf("\n");

}

return 0;

}

int comb(int n, int r)

{

return fact(n)/(fact(r) \* fact(n-r));

}

int fact(int n)

{

int i ,fact = 1;

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

{

fact = fact \* i;

}

return fact;

}

1. Write a program in C to find the square of any number using the function.

#include<stdio.h>

int square(int);

int main()

{

int n;

printf("Enter the number :");

scanf("%d",&n);

printf("The square of %d is : %d",n,square(n));

return 0;

}

int square(int x)

{

return x\*x;

}

1. Write a program in C to find the sum of the series 1! /1+2!/2+3!/3+4!/4+5!/5 using the function.

#include<stdio.h>

int fact(int);

int main()

{

int j,sum=0;

for(j=1;j<=5;j++)

{

sum = sum + fact(j)/j;

}

printf("Sum = %d",sum);

return 0;

}

int fact(int n)

{

int i,fact=1;

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

fact = fact \* i;

return fact;

}