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

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

#include<stdio.h>

int lcm(int a,int b);

int main()

{

int a,b,i,n;

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

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

printf("LCM of %d & %d is %d",a,b,lcm(a,b));

printf("\n");

return 0;

}

int lcm(int a,int b)

{

int i;

if(a>b)

i=a;

else

i=b;

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

{

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

return (i);

}

}

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

#include<stdio.h>

int HCF(int a,int b);

int main()

{

int a,b;

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

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

printf("HCF of %d & %d is %d\n",a,b,HCF(a,b));

printf("\n");

return 0;

}

int HCF(int a,int b)

{

int i;

if(a<b)

i=a;

else

i=b;

for(;i>0;i--)

{

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

return i;

}

}

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

#include<stdio.h>

int prime(int n);

int main()

{

int n,f;

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

scanf("%d",&n);

f=prime(n);

if(f)

printf("%d is a prime number\n",n);

else

printf("%d is not a prime number\n",n);

printf("\n");

return 0;

}

int prime(int n)

{

int i;

if(n<2)

return 0;

else

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

{

if(n%i==0)

return 0;

}

return 1;

}

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

#include<stdio.h>

int isPrime(int n);

int nextPrime(int n);

int main()

{

int n;

printf("Enter a number \n");

scanf("%d",&n);

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

}

int isPrime(int n)

{

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

if(n%i==0){

return 0;

}

}

return 1;

}

int nextPrime(int n){

if(n==1)

return 2;

else{

while(1){

++n;

if(isPrime(n)){

return n;

}

}

}

}

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

#include<stdio.h>

int isPrime(int n);

int Prime(int n);

int main()

{

int i,n;

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

scanf("%d",&n);

Prime(n);

printf("\n");

return 0;

}

int Prime(int n)

{

int i;

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

{

if(isPrime(i))

printf("%d ",i);

}

}

int isPrime(int n)

{

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

if(n%i==0){

return 0;

}

}

return 1;

}

6. Write a function to print all Prime numbers between two given numbers. (TSRN)

#include<stdio.h>

int isPrime(int num);

int Prime(int n,int m);

int main()

{

int i,n,m;

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

scanf("%d %d",&n,&m);

Prime(n,m);

printf("\n");

return 0;

}

int Prime(int n,int m)

{

int i;

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

{

if(isPrime(i))

printf("%d ",i);

}

}

int isPrime(int num)

{

int x;

if(num<=1)

return 0;

else

for(int x=2; x<=num/2; x++){

if(num%x==0){

return 0;

}

}

return 1;

}

7. Write a function to print first N terms of Fibonacci series (TSRN)

#include<stdio.h>

void Fib(int n);

int main()

{

int n;

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

scanf("%d",&n);

Fib(n);

printf("\n");

return 0;

}

void Fib(int n)

{

int i,pre=0,cur=1,sum;

if(n>=1)

printf("1 ");

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

{

sum=pre+cur;

pre=cur;

cur=sum;

printf("%d ",sum);

}

}

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

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

#include<stdio.h>

int sear();

int main()

{

int n,a,f;

printf("Enter a number\nEnter a digit you want to search\n");

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

f=sear(n,a,f);

if(f)

printf("%d is present in %d\n",a,n);

else

printf("%d is not present in %d\n",a,n);

}

int sear(int n,int a,int f)

{

int dig;

while(n>0)

{

dig=n%10;

if(a==dig)

{

f=1;

return 1;

}

n/=10;

}

return f=0;

}

10. 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 n);

int main()

{

int i,n,sum=0;

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

scanf("%d",&n);

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

{

sum+=(fact(i)/i);

}

printf("sum of 1!/1+2!/2+3!/3+... upto %d is %d",n,sum);

printf("\n");

return 0;

}

int fact(int n)

{

int fat;

if(n==1)

return 1;

else

fat=n\*fact(n-1);

return fat;

}