More on functions in C Language

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;

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

printf("%d", lcm(a, b));

}

int lcm(int a, int b)

{

int c = b;

while (c % a != 0 || c % b != 0)

{

c++;

}

return c;

}

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

#include <stdio.h>

int hcf(int, int);

int main()

{

int a, b;

printf("enter two number: ");

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

printf("hcf is %d ", hcf(a, b));

return 0;

}

int hcf(int h, int k)

{

int hc=1,m;

m=h<k? h:k;

for(int i=1;i<=m;i++)

{

if(h%i==0 && k%i==0)

{

hc=i;

}

}

return hc;

}

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

#include <stdio.h>

int prime(int);

int main()

{

int a;

printf("enter any number: ");

scanf("%d", &a);

if (prime(a))

{

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

}

else

printf("given number is not prime");

return 0;

}

int prime(int a)

{

int i = 2;

while (i < a)

{

if (a % i == 0)

{

return 0;

}

i++;

}

return 1;

}

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

#include <stdio.h>

int prime(int);

int main()

{

int a;

printf("enter any number: ");

scanf("%d", &a);

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

return 0;

}

int prime(int a)

{

a=a+1;

while (1)

{

int prim = 1;

int i = 2;

while (a > i)

{

if (a % i == 0)

{

prim = 0;

break;

}

i++;

}

if (prim)

return a;

a++;

}

}

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

#include<stdio.h>

void prime(int);

int main()

{

int a;

printf("enter number of prime: ");

scanf("%d", &a);

prime(a);

}

void prime(int a)

{

int b=2,i=0,flag=0;

while(i<a)

{ flag=1;

for(int j=2;j<b/2;j++)

{

if(b%j==0)

{

flag=0;

b++;

break;

}

}

if(flag)

{

printf("%d ",b);

b++;

i++;

}

}

}

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

#include<stdio.h>

void prime(int, int);

int main()

{

int a,b;

printf("enter any number: ");

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

prime(a,b);

return 0;

}

void prime(int a, int b)

{

int factor;

if(a>b)

{

factor=a;

a=b;

b=factor;

}

while(a<b)

{

factor=1;

for(int i=2;i<=a/2;i++)

{

if(a%i==0)

{

a++;

factor=0;

break;

}

}

if(factor)

{

printf("%d ",a);

a++;

}

}

}

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

#include<stdio.h>

void fabo(int);

int main()

{

int n;

printf("enter any number: ");

scanf("%d",&n);

fabo(n);

return 0;

}

void fabo(int n)

{

int a=0,b=1,temp;

for(int i=0;i<n;i++)

{

printf("%d ",b);

temp=b+a;

a=b;

b=temp;

}

}

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

#include <stdio.h>

long binomial(long, long);

void cof\_factor(long);

long main()

{

long n;

printf("enter the value of n: ");

scanf("%d", &n);

cof\_factor(n);

return 0;

}

long factor(long f)

{

long fac=1;

for(long i=1;i<=f;i++)

fac=fac\*i;

return fac;

}

long binomial(long n, long r)

{

if(n==0 || r==0 || n-r==0)

return 1;

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

}

void cof\_factor(long n)

{

for (long i = 0; i < n; i++)

{

for (long j = 0; j <= i; j++)

{

printf("%ld ",binomial(i, j));

}

printf("\n");

}

}

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

#include<stdio.h>

int sqr(int);

int main()

{

int a;

printf("enter any number: ");

scanf("%d", &a);

printf("square of given number is %d",sqr(a));

return 0;

}

int sqr(int a)

{

return a\*a;

}

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>

long series(int);

long factorial(int);

int main()

{

int a;

printf("enter the no. of element in series");

scanf("%d",&a);

for(int i=1;i<=a;i++)

printf("%d!/%d + ",i,i);

printf(" = %ld",series(a));

return 0;

}

long series(int a)

{

long sum=0;

for(int i=1;i<=a;i++)

{

sum=sum+factorial(i)/i;

}

return sum;

}

long factorial(int n)

{

long fact=1;

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

{

fact=fact\*i;

}

return fact;

}