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;
}
```