Assignment 11

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

```
#include<stdio.h>
int calculateLCM(int,int);
int main()
{
    int a,b,s;
    printf("Enter a numbers ");
    scanf("%d%d",&a,&b);
    s = calculateLCM(a,b);
    printf("LCM of two number is %d",s);
    return 0;
}
int calculateLCM(int x, int y)
{
    int i, hcf, min;
    min = x<y?x:y;
    for(i=1; i<=min; i++)
    {
      if((x%i==0) && (y%i==0))
      {
         hcf = i;
      }
    }
    return((x*y)/hcf);
}
```

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

```
#include<stdio.h>
int calculateHCF(int,int);
int main()
{
    int a,b,s;
    printf("Enter a numbers ");
    scanf("%d%d",&a,&b);
    s = calculateHCF(a,b);
    printf("HCF of two number is %d",s);
    return 0;
}
int calculateHCF(int x, int y)
{
    int i, hcf, min;
    min = x<y?x:y;
    for(i=1; i<=min; i++)
    {
      if((x%i==0) && (y%i==0))
      {
         hcf = i;
      }
    }
```

```
    return hcf;
}
```

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

```
#include<stdio.h>
int Prime(int);
int main()
{
    int num,s;
    printf("Enter a number ");
    scanf("%d",&num);
    s = Prime(num);
    if (s==0)
        printf("Number is prime");
    else
        printf("Number is not prime");

    return 0;
}
int Prime(int n)
{
    int i,count=0;
    for (i = 2; i <= n/2; i++)
    {
        if (n%i==0)
            count++;
    }
    return count;
}
```

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

```
#include<stdio.h>
int Prime(int);
int main()
{
    int num,s;
    printf("Enter a number ");
    scanf("%d",&num);
    s = Prime(num);
    printf("Next prime number is %d",s);

    return 0;
}
int Prime(int n)
{
    int i,j,count=0;

    for (i = n; 1; i++)
    {    count=0;
```

```
        for (j = 2; j <= i/2; j++)
        {
            if (i%j==0)
                count++;
        }
        if (count==0)
        {
            return i;
        }
    }
}
```

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

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

```
#include<stdio.h>
void Prime(int,int);
int main()
{
    int n,m;
    printf("Enter the numbers ");
    scanf("%d%d",&n,&m);
    Prime(n,m);
    return 0;
}
void Prime(int a,int b)
{
    int i, j, count;

    printf("Prime numbers between %d and %d:-",a,b);
    for (i = a; i<=b; i++)
    {
        count = 0;
        for (j=2; j < i; j++)
        {
            if(i%j==0)
                count=1;
        }
        if (count==0)
        {
            printf("\n%d is Prime",i);
        }
    }
}
```

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

```
#include<stdio.h>
int Fibonacci(int);
int main()
{
    int num;
    printf("Enter the term of fibonacci series ");
    scanf("%d",&num);
    Fibonacci(num);
    return 0;
}
int Fibonacci(int n)
{
    int a=0, b=1,i,temp;
    printf("fibonacci series is: %d %d ",a,b);
    for (i = 1; i < n-1; i++)
    {
        temp = b;
        b = a+b;
        a = temp;
        printf("%d ",b);
    }
}
```

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

```
#include<stdio.h>
int combination(int,int);
int fact(int n);
void pascaltriangle();
int main()
{
    int N;
    // printf("enter a number ");
    // scanf("%d",&N);
    pascaltriangle(5);
    return 0;
}
int combination(int num,int r)
{
    return fact(num)/fact(r)*fact(num-r);;
}
void pascaltriangle(int n)
{
    int i, j;
    for ( i = 0; i <= n ; i++)
    {
        for (j = 0;  j <= i; j++)
        {
            printf("%d ",combination(i, j));
        }
        printf("\n");
    }
```

```
}
int fact(int num)
{
    int f = 1,i;
    for ( i = 1; i <= num ; i++)
    {
        f = f*i;
    }
    return f;
}
```

9. 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,s;
    printf("Enter a number ");
    scanf("%d",&n);
    s = square(n);
    printf("Square of %d is %d",n,s);
    return 0;
}
int square(int num)
{
    return num*num;
}
```

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);
int fact(int n)
{
    int i,f=1;
    for (i = 1; i <= n; i++)
        f = f*i;
    return f;
}
int main()
{
    int i, sum=0;
    for (i = 1; i <= 5; i++)
    {
        sum = sum + fact(i)/i;
    }
    printf("%d",sum);
}
```