Assignment – 11

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

```c
#include<stdio.h>
int lcm(int a,int b)
{
    int max;
    max = (a>b)?a:b;
    while(1)
    {
    if(max%a==0 && max%b==0)
    {
        return max;
    }
    max++;
    }
}
int main()
{
    int a,b;
    printf("Enter two numbers :");
    scanf("%d%d",&a,&b);
    printf("LCM of given number is %d",lcm(a,b));
    return 0;
}
```

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

```c
#include<stdio.h>
int hcf(int a,int b)
{
    int min;
    min = (a>b)?b:a;
    while(1)
    {
    if(a%min==0 && b%min==0)
    {
        return min;
    }
    min--;
    }
}
int main()
{
    int a,b;
    printf("Enter two numbers :");
    scanf("%d%d",&a,&b);
    printf("HCF of given number is %d",hcf(a,b));
    return 0;
}
```

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

```c
#include<stdio.h>
#include<math.h>
int prime(int n)
{
    int I;
    for(i=2;i<=sqrt(n);i++)
    {
        if(n%i==0)
            return 0;
    }
    return 1;
}
int main()
{
    int n;
    printf("Enter number : ");
    scanf("%d",&n);
    if(prime(n))
    {
        printf("%d is prime number",n);
    }
    else
    {
        printf("%d is non prime number",n);
    }
    return 0;
}
```

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

```c
#include<stdio.h>
#include<math.h>
int nextprime(int n)
{
   int i,j;
   for(i=n+1;i<=2*n;i++)
   {
        for(j=2;j<i;j++)
        {
            if(i%j==0)
                break;
        }
        if(i==j)
            return i;
   }
}
int main()
{
    int n;
    printf("Enter number : ");
    scanf("%d",&n);
    printf("Next prime number is %d",nextprime(n));
    return 0;
}
```

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

```c
#include<stdio.h>
void printprime(int n)
{
    int i,j,count=0;
    for(i=2;i<=n*n;i++)
    {
        for(j=2;j<=i;j++)
        {
            if(i%j==0)
                break;
        }
        if(i==j)
        {
            printf("%d ",i);
            count++;
        }
        if(count==n)
            break;
    }
}
int main()
{
    int n;
    printf("Enter  number :");
    scanf("%d",&n);
    printf("%d prime numbers are : ",n);
    printprime(n);
    return 0;
}
```

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

```c
#include<stdio.h>
void printprime(int a,int b)
{
    int i,j;
    for(i=a;i<=b;i++)
    {
        for(j=2;j<=i;j++)
        {
            if(i%j==0)
                break;
        }
        if(i==j)
        {
            printf("%d ",i);
        }
    }
}
int main()
{
    int a,b;
    printf("Enter range of prime numbers :");
    scanf("%d%d",&a,&b);
```

```
    printf("Prime numbers between %d and %d are : ",a,b);
    printprime(a,b);
    return 0;
}
```

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

```
#include<stdio.h>
void fib(int n)
{
    int a=0,b=1,temp,count=0;
    while (1)
    {
        printf("%d ",a);
        temp=a+b;
        a=b;
        b=temp;
        count++;
        if(count==n)
            break;
    }
}
int main()
{
    int n;
    printf("Enter number : ");
    scanf("%d",&n);
    printf("First %d term of  ibonacci series are ",n);
    fib(n);
    return 0;
}
```

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

```
#include<stdio.h>
void pascal(int n)
{
    int I,j,k,coef=1;
    for(i=0;i<n;i++)
    {
        for(j=1;j<=n-I;j++)
        printf(" ");
        for(k=0;k<=I;k++)
        {
            if(k==0 || i==0)
            coef = 1;
            else
            coef = coef*(i-k+1)/k;
            printf("%2d",coef);
        }
        printf("\n");
    }
}
```

```c
int main()
{
    int n;
    printf(“Enter number : “);
    scanf(“%d”,&n);
    printf(“PASCAL TRIANGLE :\n”);
    pascal(n);
    return 0;
}
```

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

```c
#include<stdio.h>
int square(int n)
{
    return n*n ;
}
int main()
{
    int n;
    printf(“Enter number : “);
    scanf(“%d”,&n);
    printf(“Square of %d is %d”,n,square(n));
    return 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.

```c
#include<stdio.h>
int fact(int n)
{
    int i,result=1;
    for(i=1;i<=n;i++)
    {
        result = result * i ;
    }
    return result;
}
int main()
{
    int i,sum=0;
    for(i=1;i<=5;i++)
    {
        sum = sum + (fact(i)/i);
    }
    printf("sum is %d",sum);
    return 0;
}
```