More on functions in C Language
Assignment-11
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1.Write a function to calculate LCM of two numbers. (TSRS)
Ans:-

```c
#include<stdio.h>
int lcm(int,int);
int main()
{
    int x,y;
    printf("Enter two number ");
    scanf("%d%d",&x,&y);
    printf("LCM of %d and %d is =%d",x,y,lcm(x,y));
    return 0;
}
int lcm(int a,int b)
{
    int i;
    for(i=a>b?a:b;i<=a*b;i++)
      if((i%a==0) && (i%b==0) )
          break;
    return i;
}
```

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

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

```c
    return a*b/lcm(a,b);
}
```

3. Write a function to check whether a given number is Prime or not. (TSRS)
Ans:-
```c
#include<stdio.h>
int check_prime(int);
int main()
{
    int x;
    printf("Enter a number ");
    scanf("%d",&x);
    if(check_prime(x))
        printf("%d is a prime number",x);
    else
        printf("%d is not a prime number",x);
    return 0;
}
int check_prime(int a)
{
    int i;
    for(i=2;i<=a/2;i++)
        if(a%i==0)
            return 0;
    return 1;
}
```

4. Write a function to find the next prime number of a given number. (TSRS)
Ans:-
```c
#include<stdio.h>
int next_prime(int);
int main()
{
    int x;
    printf("Enter a number ");
    scanf("%d",&x);
    printf("Next prime of %d is=%d",x,next_prime(x));
    return 0;
}
int next_prime(int a)
{
    int i,j;
    for(i=a+1;;i++)
    {
        for(j=2;j<=i/2;j++)
            if(i%j==0)
                break;
        if(j==i/2+1)
            return i;
```

```
    }
}
```

5. Write a function to print first N prime numbers (TSRN)
Ans:-
```c
#include<stdio.h>
void printN_prime(int);
int main()
{
    int x;
    printf("Enter a number ");
    scanf("%d",&x);
    printN_prime(x);
    return 0;
}
void printN_prime(int a)
{
    int i,j;
    for(i=2;a;i++)
    {
        for(j=2;j<=i/2;j++)
            if(i%j==0)
                break;
        if(j==i/2+1)
        {
            printf("%d ",i);
            a--;
        }
    }
}
```

6. Write a function to print all Prime numbers between two given numbers. (TSRN)
Ans:-
```c
#include<stdio.h>
void print_prime(int,int);
int main()
{
    int x,y;
    printf("Enter two number ");
    scanf("%d%d",&x,&y);
    print_prime(x,y);
    return 0;
}
void print_prime(int a,int b)
{
    int i,j;
    for(i=a+1;i<b;i++)
    {
        for(j=2;j<=i/2;j++)
```

```c
        if(i%j==0)
            break;
      if(j==i/2+1)
          printf("%d ",i);
   }
}
```

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

Ans:-

```c
#include<stdio.h>
void print_fib(int);
int main()
{
   int x;
   printf("Enter two number ");
   scanf("%d",&x);
   print_fib(x);
   return 0;
}
void print_fib(int a)
{
   int i,j,fibb;
   for(i=-1,j=1;a;a--)
   {
      fibb=i+j;
      i=j;
      j=fibb;
      printf("%d ",fibb);
   }
}
```

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

Ans:-

```c
#include<stdio.h>
int combination(int,int);
int fact(int n);
void pascal(int);
int main()
{
   int a;
   printf("Enter a number (number of line in pascal triuangle) ");
   scanf("%d",&a);
   pascal(a);
   return 0;
}
void pascal(int x)
{
   int i,j;
   for(i=0;i<x;i++)
```

```c
   {
      for(j=0;j<=i;j++)
         printf("%d ",combination(i,j));
      printf("\n");
   }

}
int factN(int x)
{
   int i=1;
   while(x)
   {
      i=i*x--;
   }
   return i;
}
int combination(int n,int r)
{
   return factN(n)/factN(r)/factN(n-r);
}
```

9. Write a program in C to find the square of any number using the function.
Ans:-
```c
#include<stdio.h>
int sqn(int);
int main()
{
   int a;
   printf("Enter a number ");
   scanf("%d",&a);
   printf("Square of %d is =%d",a,sqn(a));
   return 0;
}
int  sqn(int x)
{
    return x*x;
}
```

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.
Ans:-
```c
#include<stdio.h>
int factN(int);
int sumofseries(int);
int main()
{
   int a;
   a=sumofseries(5);
   printf("sum of the series =%d",a);
```

```c
        return 0;
}
int sumofseries(int p)
{
    int sum=0,j;
    for(j=1;j<=p;j++)
    {
        sum=sum+factN(j)/j;
    }
    return sum;
}
int factN(int x)
{
     int i=1;
     while(x)
     {
        i=i*x--;
     }
     return i;
}
```