Assignment - 11 A Job Ready Bootcamp in C++, DSA and IOT

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 i;

   for(i=1;i<=a*b;i++)
   {
      if((i%a==0) && (i%b==0))
      {
         break;
      }
   }
  return i;
}
int main()
{
   int x,y;
   printf("Enter two numbers ");
   scanf("%d%d",&x,&y);

   printf("LCM is %d",lcm(x,y));

   return 0;
}
```

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

```
#include<stdio.h>
int hcf(int a,int b)
{
   int i,hcf=1;

   int min = a<b?a:b;
   for(i=1;i<=min;i++)
   {
      if((a%i==0) && (b%i==0))
      hcf=i;
   }
  return hcf;
}
int main()
```

```
{
   int x,y;
   printf("Enter two number ");
   scanf("%d%d",&x,&y);
   printf("HCF is %d ",hcf(x,y));

   return 0;
}
```

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

```
#include<stdio.h>
int prime(int n)
{
   int i;
   for(i=2;i<=n/2;i++)
   {
      if(n%i==0)
         return 1;
   }
}
int main()
{
   int x;
   printf("Enter a number ");
   scanf("%d",&x);

   if(prime(x)==1)
      printf("Not Prime");
   else
      printf("Prime Number");

   return 0;
}
```

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

```
#include<stdio.h>
int nextprime(int n)
{
   int i,j,flag=0;
   for(i=n+1; ;i++)
     {
         flag=0;
         for(j=2;j<=(n+1)/2;j++)
         {
```

```
            if(i%j==0)
              flag=1;
           }
           if(flag==0)
             {
                printf("Next prime number is %d",i);
                break;
             }
      }
}
int main()
{
   int x;
   printf("Enter a number ");
   scanf("%d",&x);
   nextprime(x);
   return 0;
}
```

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

```
#include<stdio.h>
void firstN(int n)
{
   int i,count=0;
   for(i=2; ;i++)
   {
      int j,flag=0;

     for(j=2;j<=i/2;j++)
      {
        if(i%j==0)
         flag=1;
      }
      if(flag==0)
      {
         printf("%d ",i);
         count++;
      }
      if(n==count)
         break;
   }
}
int main()
{
```

```
    int x;
    printf("Enter a number ");
    scanf("%d",&x);
    firstN(x);
    return 0;
}
```

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

```
#include<stdio.h>
void primeBetw(int a,int b)
{
    int i,n,flag=0;
    for(n=a+1; n<b; n++)
    {
        flag=0;
        for(i=2;i<=n/2;i++)
        {
            if(n%i==0)
            flag = 1;
        }
        if(flag==0)
        printf("%d ",n);
    }
}
int main()
{
    int x=5,y=49;
    primeBetw(x,y);

    return 0;
}
```

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

```
#include<stdio.h>
void Nfibbo(int a)
{
    int i,prev=0,cur=1,next=0;

    printf("1 ");
    for(i=1;i<=a-1;i++)
    {
        next=prev+cur;
        printf("%d ",next);
        prev=cur;
```

```
        cur=next;
    }
}

int main()
{
  int x;
  printf("Enter a number ");
  scanf("%d",&x);
  Nfibbo(x);

  return 0;
}
```

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

```
#include<stdio.h>
int fact(int a)
{
    int i,n=1;
    for(i=a;i>=1;i--)
    {
        n=n*i;
    }
    return n;
}
int comb(int a,int b)
{
    return fact(a)/(fact(b)*fact(a-b));
}
void pascal(int a)
{
    int i,j;
    for(i=0;i<=a;i++)
    {
        for(j = 0; j <= a-i; j++)
            printf("  ");

        for(j= 0;j<=i;j++)
            printf("%3d ",comb(i,j));

        printf("\n");
    }
}
int main()
```

```
{
  int x;
  printf("Enter a number ");
  scanf("%d",&x);
  printf("\n\n");
  pascal(x);

  return 0;
}
```

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

```
#include<stdio.h>
void square(int n)
{
   n=n*n;
   printf("\nSquare is %d",n);
   return 0;
}
int main()
{
   int x;
   printf("Enter a number ");
   scanf("%d",&x);
   square(x);
   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**.

```
#include<stdio.h>
int fact(int a)
{
   int i,n=1;
   for(i=a;i>=1;i--)
   {
      n=n*i;
   }
   return n;
}
int main()
{
   int x=5,i,y=0;
   for(i=1;i<=x;i++)
   {
```

```
        y=y+fact(i)/i;
    }
    printf("Series 1!/1 + 2!/2 + 3!/3 + 4!/4 + 5!/5 = ");
    printf("%d",y);

    return 0;
}
```