Assignment-1)

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

```
#include<stdio.h>
int LCM(int a, int b)
{
 int max=a*b;
 int c;
 for(int i=1 ; i<=max; i++)
 {
   if(i%a==0 && i%b==0)
   {
      c=i;
      break;
   }
 }
 return c;
}
```

```
int main()
{
 int a,b;
 scanf("%d %d",&a,&b);
 int result = LCM(a,b);
 printf("%d", result);
 return 0;
}
```

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

```
#include<stdio.h>
int HCF(int a, int b)
{
 int min=a<b?a:b;
 int c;
 for(int i=1 ; i<=min;i++)
 {
   if(a%i==0 && b%i==0)
   {
      c=i;
      break;
   }
 }
 return c;
}
```

```
int main()
{
 int a,b;
 scanf("%d %d",&a,&b);
 int result = HCF(a,b);
 printf("%d ", result);
 return 0;
}
```

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

```
#include<stdio.h>
int checkPrime(int);
int main()
{
  int n, result;
  scanf("%d",&n);
  result = checkPrime(n);
  if(result==0)
     printf("not Prime");
  else
     printf("Prime");
  return 0;
}
```

```
int checkPrime(int n)
{
  int i;
  if(n==0 || n==1)
     return 1;
  for(i=2; i<n; i++)
  {
    if(n%i==0)
       return 1;
  }
}
```

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,count;
  for(i=n+1; i<i+1; i++)
  {
    count=0;
    for(j=1; j<(i+1); j++)
    {
      if(i%j==0)
        count++;
    }
    if(count==2)
    {
      return i;
      break;
    }
  }
}
```

```
int main()
{
  int n, result;
  scanf("%d",&n);
  result = nextPrime(n);
  printf("Next Prime number is %d", result);
  return 0;
}
```

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

```
#include<stdio.h>
void printPrime(int n)
{
  int i,j,count;
  for(i=2; i<=n; i++)
  {
    count=0;
    for(j=1; j<=n; j++)
    {
      if(i%j==0){count++;}
    }
    if(count==2)
    {
      printf("%d ", i);
    }
  }
}
int main()
{
  int n;
  scanf("%d",&n);
  printPrime(n);
}
```

⑥ Write a function to print all prime numbers b/w two given numbers. (TSRN).

```
#include<stdio.h>
void printPrime(int a, int b)
{ int i,j, count;
  for(i=a; i<=b; i++)
  {
    count=0;
    for(j=1; j<=b; j++)
    {
      if(i%j==0)
        count++;
    }
    if(count==2)
      printf("%d ", i);
  }
}
```

```
int main()
{
  int a=2, b=20;
  scanf("%d %d", &a, &b);
  printPrime(a,b);
  return 0;
}
```

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

```
#include<stdio.h>
void fibonacci(int n)
{
  int a=0, b=1, sum=0;
  printf("%d %d ", a, b);
  for(int i=0; i<n; i++)
  {
    sum=a+b;
    printf("%d ", sum);
    a=b;
    b=sum;
  }
}
```

```
int main()
{
  int n=10;
  fibonacci(n);
  return 0;
}
```

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

```
#include<stdio.h>
#include<math.h>
int square(int n)
{
  return pow(n,2);
}
int main()
{
  int n;
  scanf("%d", &n);
  int result=square(n);
  printf("Square of %d is %d", n, result);
  return 0;
}
```

(10) Write a program in C to find the sum of the series.

$\frac{1!}{1} + \frac{2!}{2} + \frac{3!}{3} + \frac{4!}{4} + \frac{5!}{5} \ldots$

```
#include<stdio.h>
int fact(int n)
{ int i, b=1;
  for(i=1; i<=n; i++)
      b=b*i;
  return b;
}
```

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