ASSIGNMENT – 11

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

Sol-int lcm(int ,int);

int main(){

    int num1,num2,result;

    printf("Enter two numbers : ");

    scanf("%d %d",&num1,&num2);

    result = lcm(num1,num2);

    printf("lcm of numbers %d & %d is %d",num1,num2,result);

   return 0;

}

int lcm(int x,int y){

    int min,i,lcm;

    min = (x>y)?x:y;

    for(i=min;;i++){

        if(min%x==0 && min%y==0){

        lcm = min;

        break;

        }

        else

        min++;

    }

    return lcm;

    }

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

Sol-int hcf(int ,int);

int main(){

    int num1,num2,result;

    printf("Enter two numbers : ");

    scanf("%d %d",&num1,&num2);

    result = hcf(num1,num2);

    printf("hcf of numbers %d & %d is %d",num1,num2,result);

   return 0;

}

int hcf(int x,int y){

    int min,i,hcf;

    min = (x>y)?y:x;

    for(i=min;;i++){

        if(x%min==0 && y%min==0){

        hcf = min;

        break;

        }

        else

        min++;

    }

    return hcf;

    }

3. Write a program to check whether a given number is prime or not(TSRS).

Sol-#include<stdio.h>

int PrimeCheck(int);

int main(){

    int num,result;

    printf("Enter the number : ");

    scanf("%d",&num);

    result = PrimeCheck(num);

    printf("%d",result);

   return 0;

}

int PrimeCheck(int x){

    int i;

    for(i=2;i<x;i++){

        if(x%i==0){

        break;

        }

    }

    if(i==x)

    return 1;

    else

    return -1;

    }

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

Sol-int nextPrime(int n){

    int num,i;

    num = n+1;

    while(num){

    for(i=2;i<num;i++){

        if(num%i==0)

        break;

    }

    if(i==num){

        return num;

    }

    num++;

}

}

int main(){

    int x,prime=0;

    printf("Enter x : ");

    scanf("%d",&x);

    prime = nextPrime(x);

   printf("Next prime number of a given number %d  is %d",x,prime);

    return 0;

}

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

Ans-void printPrime(int n){

    int num=2,i;

    n = 2\*n;

    while(n--){

    for( i=2;i<num;i++){

        if(num%i==0)

        break;

    }

    if(i==num)

    printf("%d ",num);

    num++;

}

}

int main(){

    int x;

    printf("Enter x : ");

    scanf("%d",&x);

     printPrime(x);

    return 0;

}

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

Ans-void printPrimes(int n1,int n2){

    int j,i ;

    n1 = n1+1;

    for(i= n1 ; i<n2 ; i++){

    for( j=2;j<n1;j++){

        if(n1%j==0)

        break;

    }

    if(j==n1)

    printf("%d ",n1);

    n1++;

}

}

int main(){

    int num1,num2;

    printf("Enter num1 & num2 : ");

    scanf("%d %d",&num1,&num2);

     printPrimes(num1,num2);

    return 0;

}

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

Ans-void printfibonacci(int n){

    int a = 0 , b=1, c;

    c = a + b ;

    printf("%d %d ",a,b);

    for(int i= 1; i<=n-2 ; i++){

        printf("%d ",c);

        a = b;

        b = c;

        c = a+b;

    }

}

int main(){

    int num;

    printf("Enter num: ");

    scanf("%d",&num);

    printfibonacci(num);

    return 0;

}

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

Ans-  int squareNumber(int n){

    return n\*n;

}

int main(){

    int num,square;

    printf("Enter num: ");

    scanf("%d",&num);

    square = squareNumber(num);

    printf("Square of  number %d is %d ",num,square);

    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.

Ans-  int factorial(int n1){

    if(n1==0 || n1==1)

    return 1;

    else {

        return n1\*factorial(n1-1);

    }

  }

  int sumofSeries(int n){

    int i=1,sum=0;

    while(i<=n){

    sum = sum + factorial(i)/i;

    i++;

    }

    return sum;

}

int main(){

    int num,sum;

    printf("Enter num: ");

    scanf("%d",&num);

    sum = sumofSeries(num);

    printf("Sum of given series is %d",sum);

    return 0;

}