CPP ASSIGNMENT – 02

**1. Define a function to check whether a given number is a Prime number or not.**

//Definition

void CheckPrime (int m)

{

    int i, cnt=0;

    for (i=1; i<=m/2; i++)

    {

        If (m% i == 0)

        cnt++;

    }

    if (cnt == 1)

       cout<<m<<" is a prime Number";

    else

      cout<<m <<" is not a prime number";

}

**2. Define a function to find the highest value digit in a given number.**

//Definition

int LargestDiginNum (int m)

{

    int max = INT32\_MIN, d;

    while (m)

    {

        d = m%10;

        if(d>max)

          max = d;

       m = m/10;

    }

    return max;

}

**3. Define a function to calculate x raised to the power y.**

void XraisedToY (int x, int y)

 {

    int Ans=1;

    for (int i=1; i<=y; i++)

    {

        Ans = Ans\*x;

    }

    cout<<x<<" raised to "<<y<<" is "<<Ans;

 }

**4. Define a function to print Pascal Triangle up to N lines.**

void PascalTriangle (int s)

{

    for (int n = 0; n < s; n++)

    {

        for (int r = 0; r<=n; r++)

        {

            ncr (n, r);

            cout<<" ";

        }

        cout<<"\n";

    }

}

**5. Define a function to check whether a given number is a term in a Fibonacci series or not.**

void CheckNumInFib (int m)

{

  int n1=0, n2=1, sum=0;

  if (m==0 || m ==1)

       printf ("%d is present", m);

    else

{

        do

        {

            sum = n1+n2;

            n1 = n2;

            n2 = sum;

            if (sum == m)

             break;

        } while (sum <= m);

        if (sum == m)

          printf ("%d is present", m);

        else

             printf ("%d is not present", m);

    }

}

**6. Define a function to swap data of two int variables using call by reference**

void swap (int &x, int &y)

{

    int t;

    t = x;

    x = y;

    y = t;

    cout<< "swapped value is "<<x <<", "<<y;

}

**7. Write a function using the default argument that is able to add 2 or 3 numbers.**

//Declaration

int Add (int, int, int=0);

//Definition

int Add (int x, int y, int z)

{

    return (x+ y+ z);

}

**8. Define overloaded functions to calculate area of circle, area of rectangle and area of triangle.**

// Declaration

float area (int);

int area (int, int);

float area (float, float);

//circle

float area (int R)

{

    return 3.14\*R\*R;

}

//Rectangle

int area (int l, int b)

{

    return l\*b;

}

// Triangle

float area (float b, float h)

{

    return 0.5\*b\*h;

}

**9. Write functions using function overloading to find a maximum of two numbers and both the numbers can be integer or real.**

// Declaration

int MaximumOf (int, int);

float MaximumOf (float, float);

//Definition

int MaximumOf (int x, int y)

{

    if(x>y)

       return x;

    else

       return y;

}

Float MaximumOf (float x, float y)

{

    if (x>y)

      return x;

    else

       return y;

}

**10. Write functions using function overloading to add two numbers having different data types.**

#include<iostream>

using namespace std;

int add (int, int);

float add (int, float);

int add (int x, int y)

{

    return (x+ y);

}

float add (int x, float y)

{

    return (x+ y);

}

int main ()

{

    int a=6, c;

    char b ='a';

    float d;

    c = add (a, b);

    d= add (2, 3.8f);

    cout<<c<<" "<<d;

    return 0;

}