Assignment – 24

Job Ready Bootcamp in C++, DSA and IOT MySirG Functions in C++

1. Define a function to check whether a given number is a Prime number or not.
2. #include<iostream>
3. using namespace std;
4. int Prime(int n);
5. int Prime(int n)
6. {
7. int i;
8. for ( i = 2; i < n; i++)
9. {
10. if (n%i==0)
11. {
12. break;
13. }
14. }
15. if (n==i)
16. {
17. cout<<"Prime Number\n";
18. }
19. else{
20. cout<<"Not Prime Number";
21. }
22. }
23. int main()
24. {
25. int n;
26. cout<<"Enter A Number:"<<endl;
27. cin>>n;
28. Prime(n);
29. return 0;
30. }

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

#include<iostream>

using namespace std;

void Higst(int n);

void Higst(int n)

{

    int max=-1,r;

    while (n!=0)

    {

        r=n%10;

        if (r>max)

        {

            max=r;

        }

        n=n/10;

    }

    cout<<max;

}

int main()

{

    int n;

    cout<<"Enter a Number: "<<endl;

    cin>>n;

    Higst(n);

    return 0;

}

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

#include<iostream>

using namespace std;

void print\_pascal(int row\_num){

    for(int n = 1; n <= row\_num; n++){

        for(int r = 1; r < row\_num-n+1; r++)

            cout<<"  ";

        int val = 1;

        for(int r = 1; r <= n; r++){

            cout<<val<<"   ";

            val = val \* (n - r)/r;

        }

        cout<<endl;

    }

}

int main(){

    int row\_num;

    cout<<"Enter row Number"<<endl;

    cin>>row\_num;

    print\_pascal(row\_num);

    return 1;

}

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

#include<iostream>

using namespace std;

void CheckInput(int n);

void CheckInput(int n)

{

    int a=0, b=1, temp, i;

    for ( i = 0; i < 1000; i++)

    {

        temp=a+b;

        a=b;

        b=temp;

        if (a==n)

        {

            break;

        }

    }

    if (n==a)

    {

        cout<<"Given Number is IN the fibonacci series"<<endl;

    }

    else

    {

        cout<<"Given Number is NOT IN the fibonacci series"<<endl;

    }

}

int main()

{

    int n,t,s;

    cout<<"Enter the number: "<<endl;

    cin>>n;

   CheckInput(n);

    return 0;

}

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

#include<iostream>

using namespace std;

void inout(int &a, int &b);

void inout(int &a, int &b)

{

    int c;

    c=a;

    a=b;

    b=c;

    cout<<a<<" "<<b<<endl;

}

int main()

{

    int a,b;

    cout<<"enter two nUmbers:"<<endl;

    cin>>a>>b;

    inout(a,b);

    return 0;

}

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

#include <iostream>

using namespace std;

int sum(int x, int y, int z = 0)

{

    return (x + y + z);

}

int main()

{

    int a,b,c;

    cout<<"Enter Numbers"<<endl;

    cin>>a>>b>>c;

    cout << sum(a, b) << endl;

    cout << sum(a, b, c) << endl;

    return 0;

}

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

#include<iostream>

using namespace std;

float Area(int B, int H=1, int a=1, int b=1, int r=1)

{

    return r\*r\*b\*a\*H\*B;

}

int main()

{

    int r,a,b,B,H;

    cout<<"Enter Radius of circle length and wwidth of rectangle and Base and hight of tringle: "<<endl;

    cin>>r>>a>>b>>B>>H;

    cout<<Area(r)\*r\*3.14<<endl;

    cout<<Area(a,b)<<endl;

    cout<<Area(B,H)/2<<endl;

    return 0;

}

#include<iostream>

using namespace std;

float Area(int r)

{

    return 3.14\*r\*r;

}

int Area(int a, int b)

{

    return a\*b;

}

float Area(float n, float k)

{

    return (0.5\*n\*k);

}

int main()

{

    int r,a,b;

    float n,k;

    cout<<"Enter Radius of circle: "<<endl<<"length & width of rectangle: "<<endl<<"Base and hight of tringle: "<<endl;

    cin>>r>>a>>b>>n>>k;

    cout<<Area(r)<<endl;

    cout<<Area(a,b)<<endl;

    cout<<Area(n,k)<<endl;

    return 0;

}

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

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

#include<iostream>

using namespace std;

int Maximum(int a, int b)

{

    if (a>b)

    {

        return a;

    }

    else

    return b;

}

float Maximum(float c, float d)

{

    if (c>d)

    {

        return c;

    }

    else

    return d;

}

int main()

{

    int a,b;

    float c,d;

    cout<<"Enter two Numbers: "<<endl;

    cin>>a>>b>>c>>d;

    cout<<Maximum(a,b)<<endl;

    cout<<Maximum(c,d)<<endl;

    return 0;

}

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

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

#include<iostream>

using namespace std;

int Maximum(int a, int b)

{

    if (a>b)

    {

        return a;

    }

    else

    return b;

}

float Maximum(float c, float d)

{

    if (c>d)

    {

        return c;

    }

    else

    return d;

}

float Maximum(int e, float f)

{

    if (e>f)

    {

        return e;

    }

    else

    return f;

}

int main()

{

    int a,b,e;

    float c,d,f;

    cout<<"Enter two Numbers: "<<endl;

    cin>>a>>b>>c>>d>>e>>f;

    cout<<Maximum(a,b)<<endl;

    cout<<Maximum(c,d)<<endl;

    cout<<Maximum(e,f)<<endl;

    return 0;

}