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.

#include<iostream>

using namespace std;

int prime(int n)

{

int flag=0;

for(int i=2;i<=n/2;i++)

{

if(n%i==0)

flag=1;

}

return flag;

}

int main()

{

int x=6;

if(prime(x)==0)

cout<<"number is prime";

else

cout<<"number is not prime";

return 0;

}

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

#include<iostream>

using namespace std;

int highestdigit(int x)

{

int max=-1;

while(x)

{

if(max<x%10)

max=x%10;

x=x/10;

}

return max;

}

int main()

{

int x;

cout<<"enter a number"<<endl;

cin>>x;

cout<<"highest digit is"<<highestdigit(x);

return 0;

}

1. Define a function to calculate x raised to the power y.

#include<iostream>

using namespace std;

int pow(int x,int y)

{

int a=1;

while(y--)

{

a=a\*x;

}

return a;

}

int main()

{

int x,y;

cout<<"enter two numbers"<<endl;

cin>>x>>y;

cout<<x<<"power"<<y<<"is"<<pow(x,y);

return 0;

}

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

#include<iostream>

using namespace std;

int fact(int x)

{

if(x<=0)

return 1;

int fact =1;

for(int i=1;i<=x;i++)

fact=fact\*i;

return fact;

}

int comb(int n,int r)

{

int com = fact (n) / ((fact(r)) \* fact(n-r));

return com;

}

int main()

{

int n;

cout<<"enter a numbers"<<endl;

cin>>n;

for(int i=0;i<n;i++)

{

for(int j=0;j<=i;j++)

{

int k=0;

if(j==0)

while(k++ <= (2 - i+1))

printf(" ");

printf("%d ",comb(i,j));

}

printf("\n");

}

return 0;

}

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

#include<iostream>

using namespace std;

int fib(int n)

{

int f1=1,f2=1,temp;

if(n<=2)

return 1;

for(int i=3;i<=n;i++)

{

temp=f1+f2;

f1=f2;

f2=temp;

}

return f2;

}

int main()

{

int n,flag=0;

cout<<"enter numbers"<<endl;

cin>>n;

for(int i=1; ; i++)

{

int value=fib(i);

printf("%d",value);

if(n==value)

{

flag=1;

break;

}

if(value>n)

break;

}

printf("\n");

if(flag==1)

cout<<"number is in fibonacci";

else

cout<<"number is not fibonacci";

return 0;

}

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

#include<iostream>

using namespace std;

int swap(int &a,int &b)

{

a=a+b;

b=a-b;

a=a-b;

}

int main()

{

int x,y;

cout<<"enter 2 numbers"<<endl;

cin>>x>>y;

swap(x,y);

cout<<"number after swaping "<<x<<" "<<y;

return 0;

}

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

#include<iostream>

using namespace std;

int add(int a,int b,int c=0)

{

return a+b+c;

}

int main()

{

cout<<"addition of 2 number is "<<add(5,2)<<endl;

cout<<"addition of 3 number is "<<add(10,23,3);

return 0;

}

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

#include<iostream>

using namespace std;

float area(int r)

{

return 3.14\*r\*r;

}

int area(int x,int y)

{

return x\*y;

}

float area(float b,float h)

{

return (0.5\*b\*h);

}

int main()

{

int x,y,r;

float b,h;

cout<<"enter length and breadth of rectangle:";

cin>>x>>y;

cout<<"enter radius of circle:";

cin>>r;

cout<<"enter base and height of triangle:";

cin>>b>>h;

cout<<"\n area of rectangle is"<<area(x,y);

cout<<"\n area of circle is"<<area(r);

cout<<"\n area of triangle is "<<area(b,h);

return 0;

}

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

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