NAME: BIBEK DHUNGANA

OUTPUT

```
PS C:\Users\Bibek Dhungana\OneDrive\ttu fall 2021\Data structures and algorithms\lab assignment\lab1> g++ -o main .\main.cpp
PS C:\Users\Bibek Dhungana\OneDrive\ttu fall 2021\Data structures and algorithms\lab assignment\lab1> ./main

Hello, World!


Enter first number:10
Enter second number:11
The average of 10 and 11 is 10.5


Enter the number upto which you want to compute sum:11
The sum of all whole number is 66

Enter the number to calculate factorial of:4
The factorial of number 4 is 24

Enter five number:10 20 30 40 50
The sum of element in the array is 150

PS C:\Users\Bibek Dhungana\OneDrive\ttu fall 2021\Data structures and algorithms\lab assignment\lab1>
```

CODE

```
//including all the required libararies
#include <iostream>

using namespace std;

//declaring all the function prototype
void printHelloWorld();
void averageTwoNumber();
int sumInteger(int);
int factorial(int);
double arraySum();

int main(){

//call printHelloWorld Function
cout << endl;
printHelloWorld();
cout << "\n" << endl;
```

```
//calling the function averageTwoNumber

averageTwoNumber();

cout << "\n" << endl;


//calling sumInteger function

int inputForSum;

cout << "Enter the number upto which you want to
compute sum:";

cin >> inputForSum;

cout << "The sum of all whole number is " <<
sumInteger(inputForSum) << "\n\n";


//calling factorial Function

int num;

cout << "Enter the number to calculate factorial of:";

cin >> num;

cout << "The factorial of number " << num << " is " <<
factorial(num) << "\n\n";


//calling the printArraySum Function

double result = arraySum();
```

```
cout << "The sum of element in the array is " << result << "\n\n";


return 0;
}

/*
NAME: printHelloWorld
INPUT: void
RETURN TYPE: void
DESCRIPTION: This function print Hello, World! to the console.
*/
void printHelloWorld(){
cout << "Hello, World!" << endl;
}

/*
NAME: averageTwoNumber
INPUT: void
```

RETURN TYPE: void

DESCRIPTION: This function take two input from the user and print average of these two numbers.

***/**

```
void averageTwoNumber(){
  double num1,num2,average;

  //asking input from the user
  cout << "Enter first number:";
  cin >> num1;

  //asking input from the user
  cout << "Enter second number:";
  cin >> num2;

  //calculating and printing the average
cout << "The average of "<< num1 << " and " << num2 <<
" is " << (num1+num2)/2 << endl;
}

/*
```

NAME:sumInteger

INPUT:int

RETURN TYPE:int

DESCRIPTION: This function ask for the input and find the sum upto that number

***/**

```
int sumInteger(int num){
    int sum = 0;
for(int i = 0; i <= num; i++){
        sum = sum + i;
    }
return sum;
}
```

/*

NAME:factorial

INPUT:void

RETURN TYPE: input

DESCRIPTION: This function ask the user for the input and calculate the factorial.

***/**

```
int factorial(int num){
    int result = 1;

    //calculating the factorial
    for(int i = 1; i <= num; i++){
        result = result * i;
    }
    return result;
}

/*
NAME:printArraySum
INPUT:void
RETURN TYPE:void
DESCRIPTION: This function ask user to enter 5 number separated by space, store it in array and
    print the sum of the array.
*/
double arraySum(){
    double num[5];
```

```
double sum = 0.0;

//asking for input.
cout << "Enter five number:";
for(int i = 0; i < 5; ++i){
    cin >> num[i];
    }

//calculating the sum
for(int i = 0; i < 5; ++i){
    sum = sum + num[i];
    }
return sum;
    }
```