Activity No. 2	
Hands-on Activity 1.2 Basic C++ Programming	
Course Code: CPE010	**Program:** Computer Engineering
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6. Output

Table 1-1. C++ Structure Code for Answer

Sections	Answer
Header File Declaration Section	#include <iostream> using namespace std;
Global Declaration Section	
Class Declaration and Method Definition Section	

Main Function	int main(){
	  int num1,num2;
	  bool A = true;
	  bool B = false;
	
	  cout << "Enter the first number: ";
	  cin >> num1;
	  cout << "Enter the second number: ";
	  cin >> num2;
	  cout << "The sum of the first and second number is: "<< num1 + num2 << endl;
	
	  if (num1 > num2) {
	  cout << "The first number is greater than the second number." << endl;
	  } else {
	  cout << "The first number is less than the second number." << endl;
	  }
	
	  if(logOperator(A, B)) {
	  cout << "Done." << endl;
	  }
	
	  return 0;
	}

Method Definition	bool logOperator(bool A, bool B) {
	  cout << "A AND B: " << (A && B) << endl;
	  cout << "A OR B: " << (A || B) << endl;

	cout << "A XOR B: " << (A != B) << endl;
	cout << "NOT A: " << (!A) << endl;
	cout << "NOT B: " << (!B) << endl;
	return true;
	}

Table 1-2. ILO B output observations and comments.

```cpp
#include <iostream>
using namespace std;

class Triangle {
private:
    double totalAngle, angleA, angleB, angleC;
public:
    Triangle(double A, double B, double C);
    void setAngles(double A, double B, double C); const bool
    validateTriangle();
};

Triangle::Triangle(double A, double B, double C) {
    angleA = A;
    angleB = B; angleC = C;
    totalAngle = A+B+C;
}

void Triangle::setAngles(double A, double B, double C) {
    angleA = A;
    angleB = B;
    angleC = C;
    totalAngle = A+B+C;
}
```

```
Run
The shape is a valid triangle.
```

comment: The value that has been set on the main function was passed through the sub function to determine the result of the code.

7. Supplementary Activity

1.)

```cpp
#include <iostream>
using namespace std;

int main() {
  int x, y, z;

  cout << "Enter the first number: ";
  cin >> x;
  cout << "Enter the second number: ";
  cin >> y;

  z = x;
  x = y;
  y = z;

  cout << "After swapping, the numbers are: ";
  cout << "First number: " << x;
  cout << "Second number: " << y;
  return 0;
}
```

2.)

```cpp
#include <iostream>
```

```
using namespace std;

int main() {
  float kelvinTemp;
  cout << "Enter temperature in Kelvin: ";
  cin >> kelvin;
  fahrenheit = (kelvin * 9/5) - 459.67;
  cout << kelvin << " Kelvin is equal to " << fahrenheit << " Fahrenheit." << endl;

  return 0;
}

3.)
#include <iostream>
#include <cmath>
using namespace std;

int main() {
  double x1, y1, x2, y2;
  cout << "Enter the x and y coordinate of the first point: ";
  cin >> x1 >> y1;
  cout << "Enter the x and y coordinate of the second point: ";
  cin >> x2 >> y2;
  float distance = sqrt(pow(x2 - x1, 2) + pow(y2 - y1, 2));
  cout << "The distance between the two points is " << distance << endl;
  return 0;
}

4.)
#include <iostream>
#include <cmath>
using namespace std;

class Triangle {
private:
    double totalAngle, angleA, angleB, angleC;
    double sideA, sideB, sideC, s;

public:
    Triangle(double A, double B, double C, double a, double b, double c);
    void totalAngles(double A, double B, double C);
    const bool isTriangle();
    double compArea();
    double compPerimeter();
    string type();
};

Triangle::Triangle(double aA, double aB, double aC, double sA, double sB, double sC) {
    angleA = aA;
    angleB = aB;
    angleC = aC;
```

```
    totalAngle = aA + aB + aC;
    sideA = sA;
    sideB = sB;
    sideC = sC;
}

void Triangle::totalAngles(double aA, double aB, double aC) {
    totalAngle = aA + aB + aC;
}

const bool Triangle::isTriangle() {
    return (totalAngle == 180);
}

double Triangle::compArea() {
    s = (sideA + sideB + sideC) / 2;
    return (sqrt(s * (s - sideA) * (s - sideB) * (s - sideC)));
}

double Triangle::compPerimeter() {
    return (sideA + sideB + sideC);
}

string Triangle::type() {
    if (angleA < 90 && angleB < 90 && angleC < 90) {
        return "Acute triangle";
    } else if (angleA > 90 || angleB > 90 || angleC > 90) {
        return "Obtuse triangle";
    } else {
        return "Right triangle";
    }
}

int main() {
    Triangle gate(20, 50, 110, 7, 8, 9);

    if (gate.isTriangle()) {
        cout << "The shape is a triangle." << endl;
        cout << "The area of the triangle is " << gate.compArea() << endl;
        cout << "The perimeter of the triangle is " << gate.compPerimeter() << endl;
        cout << "The type of triangle is " << gate.type() << endl;
    } else {
        cout << "The shape is not a triangle." << endl;
    }

    return 0;
}
```

8. Conclusion

The activity overall had taught me how to use “class” in C++; it was new to me as I did not perform this kind of task last year. While some part of the activity reminded me of our past lesson from last year in C++. The procedure guided us students to write the required block of codes and was written in a detailed manner. The supplementary activity ensures

we are familiar with the kind of complex code structure for the upcoming lessons. In my opinion, I did well mostly on the simple task function for the C++.
9. Assessment Rubric