
# CP Lab-11 Tasks

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# Lab 11 String

## Tasks: 01

Write a structure named triangle which has 3 points p1 , p2 and p3, program takes input and determines if it is a right-angle or not.

Note: A right triangle is triangle with an angle of 90 degree. The sides a, b , and c of such a triangle satisfy the Pythagorean theorem.

$$c^2 = a^2 + b^2$$

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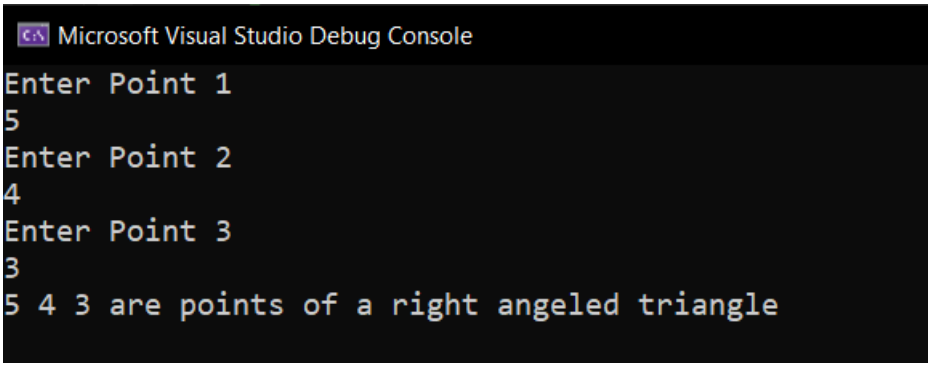
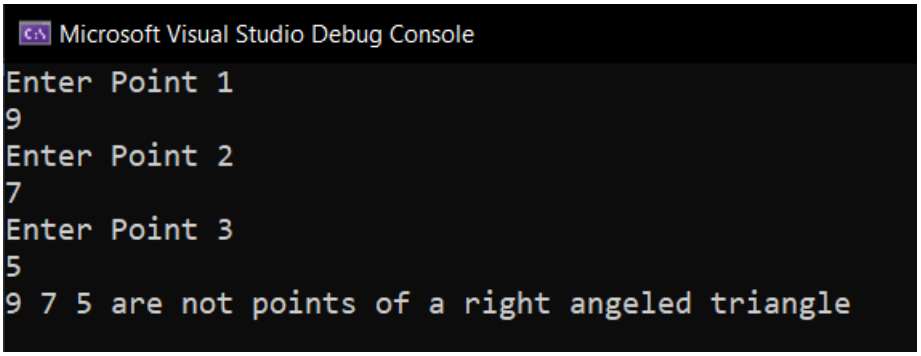
# Code:

```
#include <iOStream>
#include <string>
using namespace std;


int main() {

	struct triangle {
		int p1, p2, p3;
	};
	triangle obj;
	cout << "Enter Point 1" << endl;
	cin >> obj.p1;
	cout << "Enter Point 2" << endl;
	cin >> obj.p2;
	cout << "Enter Point 3" << endl;
	cin >> obj.p3;

	if ((obj.p1 * obj.p1) == (obj.p2 * obj.p2) + (obj.p3 * obj.p3) ||
		(obj.p2 * obj.p2) == (obj.p1 * obj.p1) + (obj.p3 * obj.p3) ||
		(obj.p3 * obj.p3) == (obj.p1 * obj.p1) + (obj.p2 * obj.p2)) {
		cout << obj.p1 << " " << obj.p2 << " " << obj.p3 << " are points of
a right angeled triangle" << endl;

	}
	else {
		cout << obj.p1 << " " << obj.p2 << " " << obj.p3 << " are not points
of a right angeled triangle" << endl;
	}


	return 0;
}
```

# Output (if points are of a right triangle):




# Output (if points are'nt of a right triangle):




## **Tasks: 02**

Make a structure BookRec which stores the following details of a book: title of the book. Author's name , it's publisher and price .Write a program to take input of 3 books and display it on console.

Example:

Title: Starting Out with C++

Author: Addison Wesley

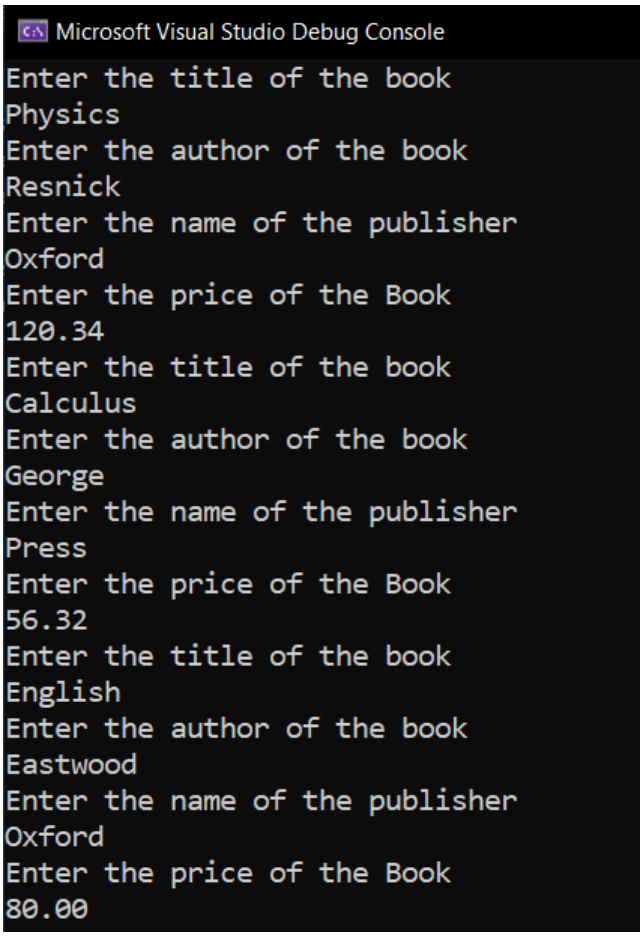
Publisher: Tony Gaddis

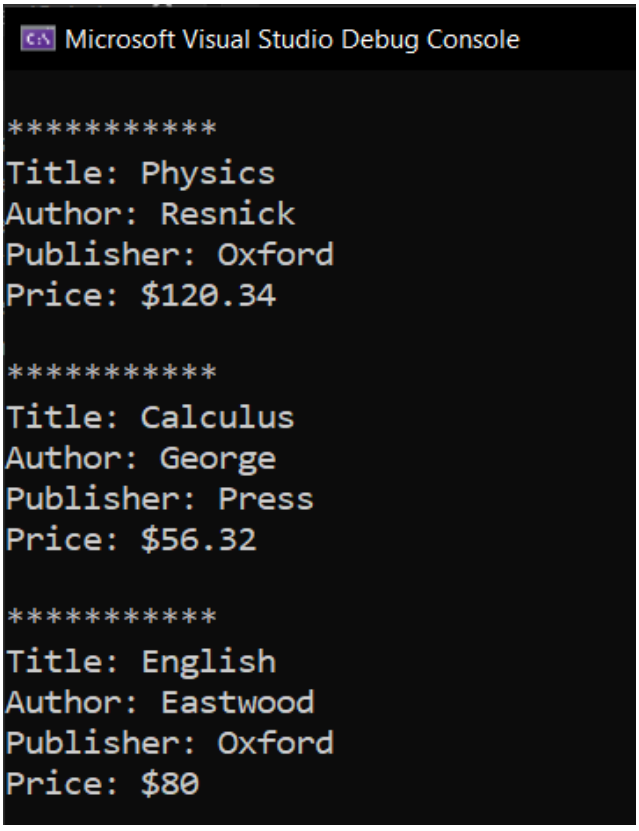
Price: $150.00

# Code:

```
#include <iOStream>
#include <string>
using namespace std;


int main() {


	struct bookRec {
		string title;
		string author;
		string publisher;
		float price;
	};
	bookRec obj[3];

	for (int i = 0; i < 3; i++) {
		cout << "Enter the title of the book" << endl;
		cin >> obj[i].title;
		cout << "Enter the author of the book" << endl;
		cin >> obj[i].author;
		cout << "Enter the name of the publisher" << endl;
		cin >> obj[i].publisher;
		cout << "Enter the price of the Book" << endl;
		cin >> obj[i].price;
	}

	for (int i = 0; i < 3; i++) {
		cout << endl << "***********" << endl;
		cout << "Title: ";
		cout << obj[i].title << endl;;
		cout << "Author: ";
		cout << obj[i].author << endl;
		cout << "Publisher: ";
		cout << obj[i].publisher << endl;
		cout << "Price: $";
		cout << obj[i].price << endl;

	}



	return 0;
}
```

# Output :


Microsoft Visual Studio Debug Console
Enter the title of the book
Physics
Enter the author of the book
Resnick
Enter the name of the publisher
Oxford
Enter the price of the Book
120.34
Enter the title of the book
Calculus
Enter the author of the book
George
Enter the name of the publisher
Press
Enter the price of the Book
56.32
Enter the title of the book
English
Enter the author of the book
Eastwood
Enter the name of the publisher
Oxford
Enter the price of the Book
80.00


Microsoft Visual Studio Debug Console
**********
Title: Physics
Author: Resnick
Publisher: Oxford
Price: $120.34
**********
Title: Calculus
Author: George
Publisher: Press
Price: $56.32
**********
Title: English
Author: Eastwood
Publisher: Oxford
Price: $80

## Tasks: 03

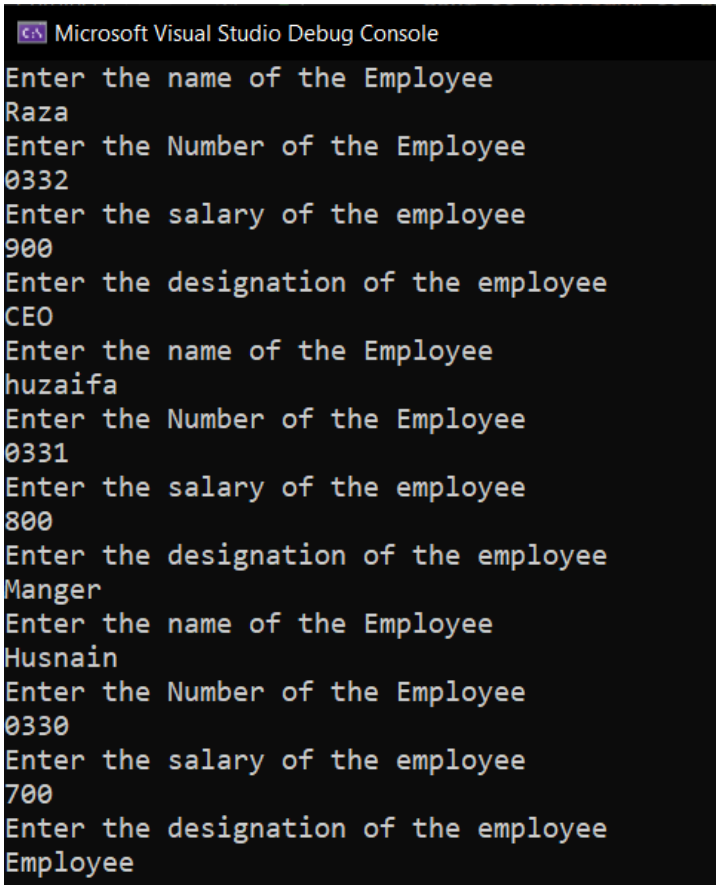
Create a structure employee to keep record of the name, employee number, salary and designation of the employee, Input data of 3 employees and print them respectively by using function.

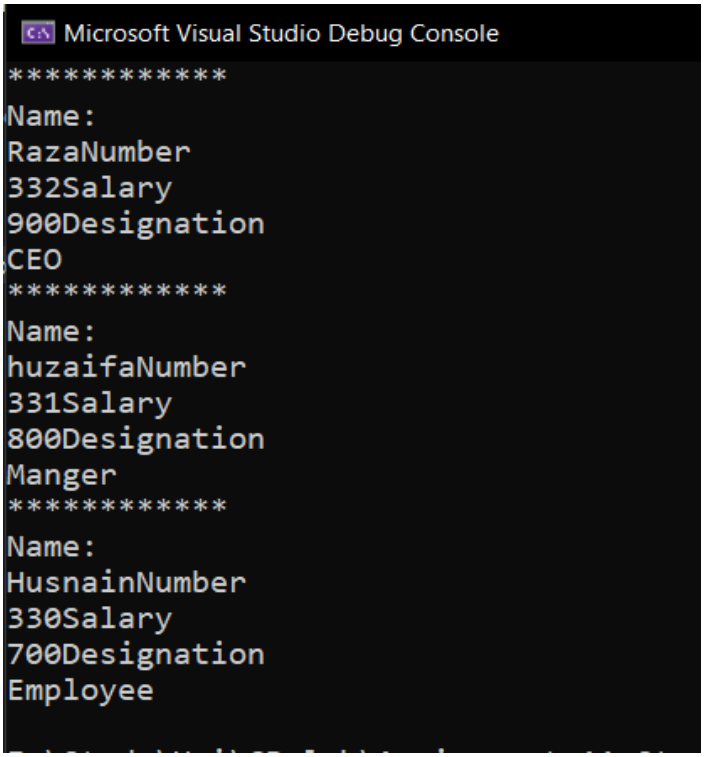
---

# Code:

```
#include <iOStream>
#include <string>
using namespace std;

struct employee {
	string name;
	int number;
	int salary;
	string designation;
};
employee obj[3];

void output(employee obj[3]) {

	for (int i = 0; i < 3; i++) {
		cout << "************" << endl;
		cout << "Name: " << endl;
		cout << obj[i].name;
		cout << "Number" << endl;
		cout << obj[i].number;
		cout << "Salary" << endl;
		cout << obj[i].salary;
		cout << "Designation" << endl;
		cout << obj[i].designation << endl;;
	}
}
int main() {

	for (int i = 0; i < 3; i++) {
		cout << "Enter the name of the Employee" << endl;
		cin >> obj[i].name;
		cout << "Enter the Number of the Employee" << endl;
		cin >> obj[i].number;
		cout << "Enter the salary of the employee" << endl;
		cin >> obj[i].salary;
		cout << "Enter the designation of the employee" << endl;
		cin >> obj[i].designation;
	}

	output(obj);
	return 0;
}
```

# Output:


Microsoft Visual Studio Debug Console
Enter the name of the Employee
Raza
Enter the Number of the Employee
0332
Enter the salary of the employee
900
Enter the designation of the employee
CEO
Enter the name of the Employee
huzaifa
Enter the Number of the Employee
0331
Enter the salary of the employee
800
Enter the designation of the employee
Manger
Enter the name of the Employee
Husnain
Enter the Number of the Employee
0330
Enter the salary of the employee
700
Enter the designation of the employee
Employee


Microsoft Visual Studio Debug Console
**********
Name:
RazaNumber
332Salary
900Designation
CEO
**********
Name:
huzaifaNumber
331Salary
800Designation
Manger
**********
Name:
HusnainNumber
330Salary
700Designation
Employee