

CP Lab-11 Tasks

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Course: CP Lab

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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](https://mathworld.wolfram.com/Triangle.html) with an [angle](https://mathworld.wolfram.com/Angle.html) of  90 degree. The sides a, b, and c of such a [triangle](https://mathworld.wolfram.com/Triangle.html) satisfy the [Pythagorean theorem](https://mathworld.wolfram.com/PythagoreanTheorem.html).

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 {

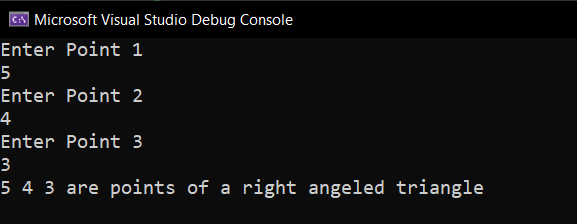
cout << obj.p1 << " " << obj.p2 << " " << obj.p3 << " are not points of a right angeled triangle" << endl;

}

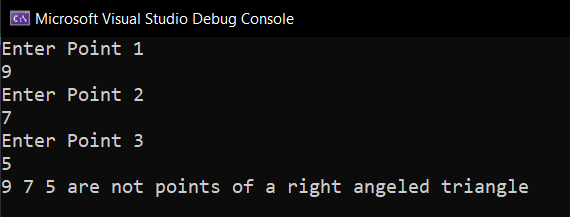
return 0;

}

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: $";

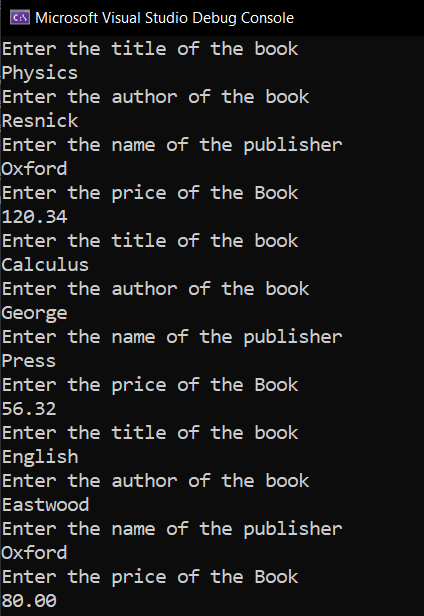
cout << obj[i].price << endl;

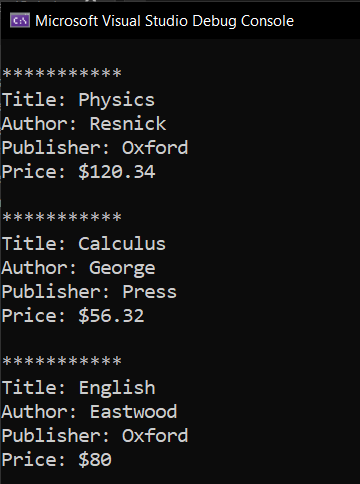
}

return 0;

}

Output :

****

****

**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:

