



## CS1004 - Object Oriented Programming Quiz 2



### Question 1:

A point on the two-dimensional plane can be represented by two numbers: an x coordinate and a y coordinate. For example, (4,5) represents a point 4 units to the right of the vertical axis, and 5 units up from the horizontal axis. The sum of two points can be defined as a new point whose x coordinate is the sum of the x coordinates of the two points, and whose y coordinate is the sum of the y coordinates.

Write a program that uses a structure called `pointType` to model a point. Define two points, and have the user input values to them. Define a function that returns a structure variable of type `pointType` which is the sum of the two structure variables of `pointType` passed to the function from the main function. Display the value of the new point in the main function.

Interaction with the program might look like this:

Enter coordinates for p1: 3 4

Enter coordinates for p2: 5 7

Coordinates of p1+p2 are: 8, 11

### Question 2:

- Write a structure specification that includes three variables—all of type `int`—called `hrs`, `mins`, and `secs`. Call this structure `timeType`.
- Write a statement that sets the `hrs` member of the `time2` structure variable equal to 11.
- If you have three variables defined to be of type `struct timeType`, and this structure contains three `int` members, how many bytes of memory do the variables use together?
- Write a definition that initializes the members of `time1`—which is a variable of type `struct timeType` to `hrs = 11`, `mins = 10`, `secs = 59`.

### Question 3:

What will be output by using `sizeof()` with a variable of the following type:

```
enum Weekday {Sun, Mon, Tue, Wed, Thu, Fri, Sat};
```

Give reasons for your answer.

