EECE.3220: Data Structures

Spring 2019

Key Questions
Structures (Lecture 3)

QUESTIONS

1. Describe the key details of structures in both C and C++.
2. Describe how structures can be nested inside one another.
3. Describe how structures are typically organized across files.
4. Describe how to avoid multiple inclusion of header files.

EXAMPLE

Show the output of the following short program. Assume the user enters the following when prompted for input: **`-1 1`**

```
#include <iostream>

using namespace std;

struct Point {
    double x;
    double y;
};

int main() {
    Point p1 = {3, 5};
    Point p2 = {7.8, 9.1};

    cout << "p1: (" << p1.x << ", " << p1.y << ")\n";
    cout << "p2: (" << p2.x << ", " << p2.y << ")\n";

    cout << "Enter new x, y for p1: ";
    cin >> p1.x >> p1.y;

    p2 = p1;
    p2.x -= 1.2;
    p1.y *= 2;

    cout << "p1: (" << p1.x << ", " << p1.y << ")\n";
    cout << "p2: (" << p2.x << ", " << p2.y << ")\n";

    return 0;
}
```