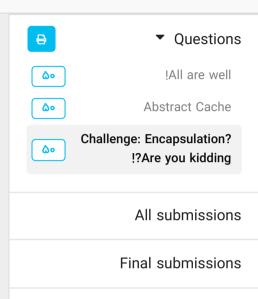# !?Challenge: Encapsulation? Are you kidding

Encapsulation & Data hiding is one of the first concepts you came across in the subject of object orientation. We know that access modifiers are used to implement this concept in object oriented languages. For example, public, private, and protected. And we have reminded you many times that data elements should not be defined as public and they should only be accessed through methods or functions and classes that we trust, which we call friends.

But do we only have these two ways and don't we have another way to achieve?! In fact, is there a way to bypass this mechanism?!

There is a positive answer in C++ language!! Consider the following code:

```cpp
#include <iostream>
using namespace std;
class Test {
    int x;
    char y;
public:
    Test() :x(0), y(0) { ; }
};
int main() {
    Test t;
```

```
    //Do stuff!
    return 0;
}
```

Write appropriate codes in the section marked with comments so that you can read and write x and y, which are private members of the class. Note that no changes should take place in the structure of the class itself.

Now answer the following questions:

- Why did this happen? Analyze the cause of its occurrence.

- Does this happen in other object oriented languages? Why?

- Does the existence of this trick make the use of access modifiers worthless?

Upload the final code along with the answers to the questions in a PDF format.

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