

Organizing Code with Classes

10 22 2001

Opening Discussion

- What did we talk about last class?
- Do you have any questions dealing with assignment #4?
- Did anyone think about the you as an object question? What did you come up with? What types of algorithmic structures describe your normal behaviors? What state data and behaviors do you require?

Programmer Written Include Files

- We saw the include statement almost as soon as we started programming because we needed it to tell the compiler we were going to use libraries like iostream and string.
- You can write your own header files as well. They are typically used to define things that could be used in multiple source files. This includes class declarations.
- The syntax of the include changes slightly for this.
`#include "MyClass.h"`

Breaking up Code

- When you are working with classes it is customary to place the class declaration in a header file (.h or .hpp file). This file can then be included in any source file that is going to use that class.
- It is also customary to break up code with different functions into different source files. This includes putting the implementation of different classes in different files.

Class Members of Classes

- I mentioned when we first started discussing structs and classes that they are types and can be used just like other types. This includes being members of classes or structs.
- This is helpful when we want to do things like create a list of something more complex than a basic type.

Size of Classes/Objects

- You have seen how breaking large functions up into smaller functions can improve your code (hopefully at least).
- Classes are the same way. You don't want a class to have too much functionality in it. Instead it is better to break it up so that objects have less functionality. This is like a human object having organs in it that do different jobs.

Minute Essay

- What did we talk about today?
- Remember that the test is Wednesday (next class). The test has 10 questions plus one extra credit question. Most of the questions either have you writing small sections of code or tracing through a small section of code. I will have a running review starting around 2pm. I don't prepare any topics for it so you have to bring questions.
- Tomorrow at 4pm I'm giving another talk on planet formation in the science lecture hall.
