



161-01

Program Organization

Friday October 18

Agenda

0. Announcements
1. Quiz Feedback
2. Discussion
3. Midsemester Reivew

Quiz Feedback



Announcements

Lab Report was due before class today.

There is a reading for you to complete before our next class



Discussion

Program organization

1. What does it mean if a .c source file contains:
`extern double pi;`
2. What does it mean if a header file contains:
`static int add(int x, int y) { return x + y; }`
3. What does it mean if we write this line inside a C function's implementation:
`static int count = 0;`

Discussion

Program organization

4. What tools/techniques do we have available to organize a large C project?
5. Imagine you're looking at a large C project for the first time:
 - a. What is one way the project could be organized that would help you understand the code?
 - b. What is one way the project could be organized that would make it hard to understand?

Discussion

Program organization

6. When should two parts of a program go in the same source file? When should they be in separate files?

- Two parts could go in the same file if their used together, or are related to each other
- If you have multiple functions that are all dependencies for something – put them in one file
- Potentially every function gets it's own file (maybe this is overkill)
- We can always reorganize! Iterative process

Discussion

Program organization

7. What should we put in a header file? What can/should we leave out?

- Include: Function declarations from the associated .c file
- Include: guards (ifdef, or #pragma once)
- Include: any required headers to support the declarations
- Include: Macros
- We should leave out the function definition
- We should leave out something that *only* the associated .c file uses (declarations, variables)

Discussion

Program organization

8. Are there any other high-level rules we should follow to keep our program organized?

- Use sensible naming conventions (for file names, for variables, .c files match .h files)
- Organized code: indentations, newlines, comments
- Use multifile structure! Structure those files in a way that makes sense
- Use capital for macros, capitals for your guards

Wrap up

Have a GREAT fall break!!

