Libraries

Class 9

Overview

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Announcements

- Python assignments due December 4
- Libraries assignments due December 4
- `eecs201-test calculate` can give you your accurate current total
- No office hours next week

Review

- Static libraries go directly inside the executable
  - Libraries are an inherent part of the executable
- Dynamic/shared libraries are referred to by the executable
  - Libraries are loaded at load/runtime

Review

- Really easy to link a library
- Toss `-lname` *at the end of compilation command*
  - `-lpng` for `libpng.so` or `libpng.a`
  - `-lm` for `libm.so` or `libm.a`
- (Linux) `-l:libname.a` is an explicit way to specify library file to link
- `-Ldir` can specify additional directories to look for libraries
  - You can also link against a library by providing the path to the library file as an argument (particularly useful for static libraries)

Review

Creating a library

- Create object code with `-c`
  - e.g. `gcc -c -o file.o file.c`
- Dynamic library object code requires `-fPIC` flag
  - e.g. `gcc -c -fPIC -o file.o file.c`
- Static: `ar rcs libname.a file.o`
- Dynamic: `gcc -shared -o libname.so file.o`

Q&A

Basic assignment