CSE 232 SS13 Lab 5 Agenda

1. Project 4
   1. See hints page on section site
2. Semester overview
   1. Linux basics
   2. C++ basics
   3. Arrays and records
   4. Classes
   5. Container classes and implementation
   6. Strings and I/O streams
   7. Templates and the C++ STL
   8. Search algorithms, trees, and recursion
   9. Tables
3. Power of Makefiles
   1. Avoid unnecessary typing every time you compile
   2. Avoid recompiling unchanged files
      1. How? Compare timestamps on target and dependencies
   3. Additional macro-like capabilities
4. Scope/Lifetime
   1. Global variables: declared outside of all functions → global scope and program lifetime
   2. Local variables: declared inside a function, or a block inside a function → block scope and block lifetime
   3. Other possible combos:
      1. block scope + program lifetime (static local/class variables)
      2. block scope + programmer-defined lifetime (dynamically allocated memory)
5. Global variables
   1. Rarely used in modern programming paradigms
   2. Can be accessed anywhere in the file
   3. If declared “extern” in another file, can be used there too
   4. MUCH safer to use parameter passing
6. Another use for reference parameters
   1. Return the critical data though reference parameters, and return status flags as the actual return value
   2. User can optionally collect the return value