COMS 1003: Introduction to Computer Programming in C

Constants, Typedef, Storage Classes

October 6th 2005
Announcements

• Use the blog
• HW1 due Thursday before class
• HW2 is available
• HW3 and 4 released Thursday
• mid-semster reviews (Courseworks)
Outline

• Review (Functions, Recursion)

• Type Modifiers (Declarators)
  - constant data
  - type renaming (typedef)
  - static, register, automatic
Constant Variables

• An oxymoron

• How can something be a variable if the value never changes?

• Need to have values that the program can't modify
  - protection against coding mistakes
  - well-known names for reuse
Use the keyword `const`

- part of the type information when declaring a variable
  - `const int STRESS_LIMIT = 4000;`
- note that no unit information is provided (just like normal variables)
- subsequent attempt to change the value of `STRESS_LIMIT` will be caught by the compiler
Type Aliasing

- The `typedef` keyword can be used to equate primitive types and groupings of primitive types with a more useful name

```cpp
// what do I do?
typedef string char[80];
typedef int number_t;
typedef long time_t;
```
Storage Classes, Scope, and Visibility

- register
- automatic
- static

- local vs. global scope
  - variables
  - functions (static vs. global)