CIS 323

Hello C++
Why are you here?

- **Learn new languages**
  - Learn how to learn new languages

- **Improve your coding**
  - Style
  - Elegance
  - Efficiency

- **Apply concepts from CIS 313**
  - Data structures
  - Solving problems

- Have fun :)
Who are you?

- Please fill out your information sheets
  - Help me get to know you
  - Help me pace this lab

- Remember to drop them off before you leave
Who Am I?

- Greg Bickerman
  - Deschutes 241
  - gbick@cs.uoregon.edu

- Office Hours
  - Tuesday 1 - 2
  - Wednesday 12 - 1
  - Whenever I'm around
Logistics

● Class
  ○ Thursday 8:30 - 9:50
  ○ Esslinger 105

● HELP
  ○ Help Enhances the Learning Process
  ○ Hands on programming help
  ○ Tuesday 5 - 6
  ○ Deschutes 100
Logistics

● Evaluation
  ○ 80% Assignments
  ○ 20% Participation

● Assignments
  ○ 5 plus a warmup
  ○ Every 2 weeks
  ○ Due Friday at 11:59 PM

● Late submission
  ○ 10% penalty per day
  ○ Request extensions 24 hours in advance
Logistics

- Grading assignments
  - 30% Correct I/O
  - 30% Implementation
  - 20% Style
  - 20% Documentation

- Code that does not compile will not receive a grade
Logistics

● Website
  ○ [http://www.cs.uoregon.edu/classes/11F/cis323/](http://www.cs.uoregon.edu/classes/11F/cis323/)
  ○ Assignments!
  ○ Schedule!

● Assignment Submission
  ○ TurnIN script
  ○ Requires CIS account
CIS Accounts

● Why should you get an account?
  ○ Lab computer access
  ○ Storage space on ix
  ○ You'll fail this lab if you don't

● How do you get a CIS account?
  ○ Go to the main CIS office (in Deschutes)
  ○ Talk to Cheri
Pair Programming

- You are encouraged (but not required) to work in pairs
  - Easier Work!
  - Finish Faster!
  - Learn More!

- Pair Programming is NOT
  - An excuse for someone to do your work for you
  - Splitting up the assignment

- So, what is pair programming?
  - Both members present while coding
  - Both members should be contributing
  - Equal time at the keyboard
Academic Honesty

- Plagiarism is a fine line
- Brainstorming together is good
  - But don't copy other people's code
- Looking online for code examples is good
  - But don't copy solutions
- Asking more experienced coders for advice is good
  - But don't look at previous solutions
- As a rule, you should be writing your own code
Java vs C++
Java vs C++

- Java garbage collects
  - In C++, you have to clean up your own trash
- Java won't let you use uninitialized variables
  - C++ will use whatever memory is lying around
- Java warns you when you're about to do something stupid
  - C++ assumes you know what you're doing
    - Alternatively, C++ lets you shoot yourself in the foot
- Java is safer
  - C++ is faster
class Hello {
    public static void main(String[] args) {
        System.out.println("Hello World");
    }
}
class Hello {
    public static void main(String[] args) {
        System.out.println("Hello World");
    }
}
#include <iostream>

int main() {
    std::cout << "Hello World" << std::endl;
}
class Hello {
    public static void main(String[] args) {
        System.out.println("Hello World");
    }
}

#include <iostream>
using namespace std;

int main() {
    cout << "Hello World" << endl;
}
System.out.print("Hello World");

BufferedReader in = new BufferedReader(...
String input;
input = in.readLine();
System.out.print("Hello World");

cout << "Hello World";

BufferedReader in = new BufferedReader(
String input;
input = in.readLine();

string input;
cin >> input;
#include <iostream>
#include <string>
using namespace std;

int main() {
    ?
}

#include <iostream>
#include <string>
using namespace std;

int main() {
    string input;
    cin >> input;
    cout << input << endl;
}

How should I write my code?

● IDE's are overkill
  ○ Great for large projects with many files
  ○ Cumbersome for lightweight programs

● I won't stop you from using an IDE

● But I would encourage you to try a more lightweight editor
  ○ Notepad++ (windows only)
  ○ jEdit
  ○ Vim

● Check out the links section of the website
How do I run it?

- Command Line
- Compiling files
  - `g++ echo.cpp -o echo`
  - Compiles `echo.cpp` and produces a binary file named `echo`
- Running binaries
  - `./echo`
  - Runs the binary file `echo`
Lab computers are useful

- Lots of preinstalled software
  ○ All → Applications → _Editor →

- Already has g++

- Good place to find knowledgeable CS people
What if you want to use lab resources remotely?

● From mac:
  ○ ssh - remote command line
  ○ scp - remote file transfer

● From windows:
  ○ PuTTy - remote command line
  ○ WinSCP - remote file transfer

● Ask me for tutorials
Warmup Assignment

- Due October 7
  - But it shouldn't take you that long ;)

- Details on course website
  - [http://www.cs.uoregon.edu/classes/11F/cis323/assn0/](http://www.cs.uoregon.edu/classes/11F/cis323/assn0/)

- Make sure you can
  - Write and compile C++ files
  - Perform basic I/O
  - Figure out C++ stuff I haven't told you explicitly
See you next week

Don't forget to hand in your info sheets