CS368 Learn a New Programming Language: 
C++ for Java Programmers 
University of Wisconsin-Madison 
Fall 2014

Course website: http://pages.cs.wisc.edu/~cs368-1
Piazza: https://piazza.com/wisc/firstsemester2014/cs3681

Instructor: M. Hidayath Ansari (ansari@cs.wisc.edu)
Office Hours: Wednesday and Thursday 2 – 3 PM + by appointment 
Medical Sciences Center 6795

Teaching Assistant: Tithy Sahu (tithys@cs.wisc.edu)
Office Hours: Tuesday 3 – 4 PM (Computer Sciences 3387)
Lab Hours: Monday 10 – 11 AM (Galapagos Lab, Computer Sciences)
Thursday 3 – 4 PM

Course content (aka things you have to keep track of):
  • Lecture
  • Readings from Text
  • Course website and Piazza
  • Assignments (Written and Programming)

Email ansari@cs.wisc.edu by next Wednesday if you:
  • participate in religious observances that may interfere with course requirements
  • have a VISA from the McBurney Center
Course Work

1-credit course with CR/N grade. Grade depends on:

**Programming Assignments (80%)**
- 5 programs, ~10-20% each
- no collaboration allowed
- Submitted through Moodle
- Late Policy:
  - up to 2 days late with penalty
  - 2 “free” late days cancel penalty

**Homework Assignments (20%)**
- 1-2 homeworks
- no collaboration allowed
- not accepted late
- Submitted through Moodle

**Attendance:**
- 12 of 15 lectures + 70% cumulative in assignments
- +5% required per missed lecture above 3
- Make sure you sign the attendance sheets every class!
Agenda for Today

• Course Introduction and Logistics
• Sign up for Piazza!
• C++ Overview and History
• Hello World!
• Simple and Enumerated Types
• HW0 assigned

Next class:
• Structs
• Arrays, Vectors, etc.
• Editing, Compiling, Running
Historical Overview

B → C

C++

Java

Python
(Some) Differences in Philosophies, Goals, How Things Are Done

Toolset, compilation model

Imports vs. preprocessor

Flexibility in writing code

Not everything is an object

Memory management

Memory access

Un-assigned variables

Security! (remember Heartbleed?)

API
A Simple Program

// PREPROCESSOR DIRECTIVES
#include <iostream> // preprocessor inserts the code in this file
//   < > for system files, " " for user-defined

using namespace std; // import java.lang.*;

// MAIN FUNCTION      // public static void main (String [] args)
int main( ) { 

    cout << "Enter a number and a letter: " << flush; // what is this?
    int a;
    char b;
    cin >> a >> b; // how does this work?
    cout << endl;
    cout << "The number you entered was: " << a << endl;
    cout << "The letter you entered was: " << b << endl;

    return 0; // main returns an int! Which one?
}

Includes and Namespaces
Basic Types, Constants, Enumerated Types

Basic Types:

Constants:

 Enums:
On your Own

- Try different inputs to the program above
- Try CS lab accounts
- Reading assigned
- Try making enumerated types