Lecture 1A

What's CS 170 all about?

Welcome to CS 170

Contact Information

- Syllabus is always available from my Web site:

  http://faculty.orangecoastcollege.edu/sgilbert/

- Here's how you can contact me:
  - Clark Computing Center, Office F
  - Office hours: MTWT 12:30-1:30 ???
  - Email: sgilbert@occ.cccd.edu, StephenGilbert@gmail.com
  - Phone: (714) 432-0202 ext 21173

What's CS 170 About?

- First programming class for Computer Science majors
  - Intended as a transfer class to 4-year college
    - **SMART-ICS** agreement with UCI, CSU Fullerton
    - http://thisclass.info/_cpp_files/transfer.html
  - Meets computing requirement at many universities
- Principles of programming, using Java as the language
  - Learn to write your own computer programs
  - A lot of work, but a lot of fun if you get into it
- So, let's look at **programming** and **Java**

What is Programming?

- The process of authoring **detailed instructions** that a computer can execute to accomplish some task
- It is very much like:
  - writing a recipe for your favorite dish
  - giving someone directions to your house
  - making a robot do what you want
- You must **explicitly** describe each step in enough detail so that the recipient can follow your instructions

What is a program?

- Computer programs consist of:
  - **Instructions** to perform a task
  - **Data** values used in performing the task

```
print 'Hello there'
```

- Instructions are *executed* in a programming **language** the computer understands
- Written in a *high-level* language

High-level Languages

- Programmers usually use **high-level** languages
  - Java, C, C++, C#, Visual Basic, Python, Scheme, Lisp, Pascal, Fortran, etc. etc.
  - **Human-oriented**: make it easier for you to write complicated programs
  - **Machine independent**: not written for any particular kind of computer (Intel, Mac, etc.)
- In this class, we'll be using the **Java** language

Kinds of Programs You'll Write

- **Applications** : run through the java interpreter
  - Both console (text-mode) and GUI applications
- **Applets** : GUI programs that live in a Web page

Other Types of Java Programs

- **Server-side Java** : Programs run on Web server
  - Servlets, JSP, JSF, J2EE
- **Micro Java** : cell phones and other mobile devices
  - (J2ME & Android)

Are You Ready?

- There are no subject prerequisites for this course, but I assume that you are computer literate
  - You can install and run programs on your computer
  - Use your computer's file system (find, copy, delete)
  - Use a zip/unzip program to work with archives
  - Create and save plain text files
  - Use the Web and email (upload, download, etc.)
- No math pre-requisite, but you should be ready for college algebra (read formulas, etc.)

Four Course Goals

- If you successfully complete this class you'll:
- Understand, explain principles of OO Programming
  - Prepare you for other modern languages
- Use different kinds of program development tools
- Write graphical applications and applets using the fundamental packages in the Java platform
  - Won't study all the classes; we'll try to master a few
- Learn how to use the Java documentation so it can teach you about the rest of the classes in the library

How Can You Succeed in CS 170?

- Don't need to be a "brain" but **must** put in quality time
  - Like a marathon or getting in shape
  - Anyone can do it, but you have to keep at it
- 5 hours a week in class and about 8 hours outside
- Cramming won't help at all; highly **sequential** material
- Practice, practice, practice
- Not high-school; I **won't** nag you

How Will You Be Graded?

- 2 Written Exams: Midterm (20%), Final (20%)
  - Closed book "standardized" multiple-choice questions
- 10 Proficiency Quizzes: programming (40%)
  - Closed book, half-hour mastery exams on computer
- Homework : reading, videos and exercises (10%)
- Labs: in-class programming assignments (10%)
- Quizzes: in-class reading, comprehension (5%)
- 105%, grade on 100% (5% extra as a "cushion")
  - 89%, 77%, 65%, 55% - no other curving

Rules for the Course

- May take **Pass/Fail**; request deadline on your schedule
- **No makeup exams**
  - 5% extra points to cover "emergencies"
- Retry/makeup **only** for proficiency quizzes
  - May re-try up to 4 of the 10 PQ exams
- Pay attention to OCC drop deadlines: **no Incompletes**
- Do your own work, and act like adults

Textbook and Software

- Textbook: handouts available online
- Software is all free and cross-platform
  - At home, you can use Windows, Unix/Linux, Mac OS X
  - Use Java version 6 or 7
  - An OCC-customized version of DrJava IDE
- You should have a USB thumb drive
  - Then you can work on almost any computer
- Use email, Blackboard or Dropbox for file transfer

Computing Center LAN

- You'll have **several passwords** for this class
- Your OCC Computing-Center password
  - This will get you onto the Local Area Network or LAN
  - **Username**: 8-digit student ID without the C or dash
  - **Password**: First letter of first name in uppercase, followed by first letter of last name in lowercase, followed by birthdate in form mmddyy
- Go ahead and log in now
  - See the help-desk in the Computing Center if stuck

The U:, T: and Q: Drives

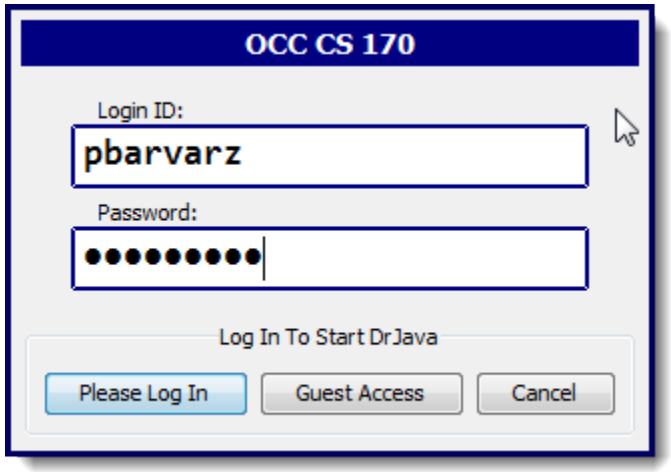
- Press the Windows key  along with E
- The U: drive is your **personal storage** space (100 MB)
  - Access from any computer in LAN but not outside
  - Do not store files in Documents or Libraries (erased)
- T: and S: is **temporary** hard-drive storage space
  - Not auto erased, but your files aren't protected
- Open **Q:\faculty5\sgilbert\cs170**
  - Code: tools and code we'll use
- Not on the LAN? Grab materials from Web

Meet DrJava

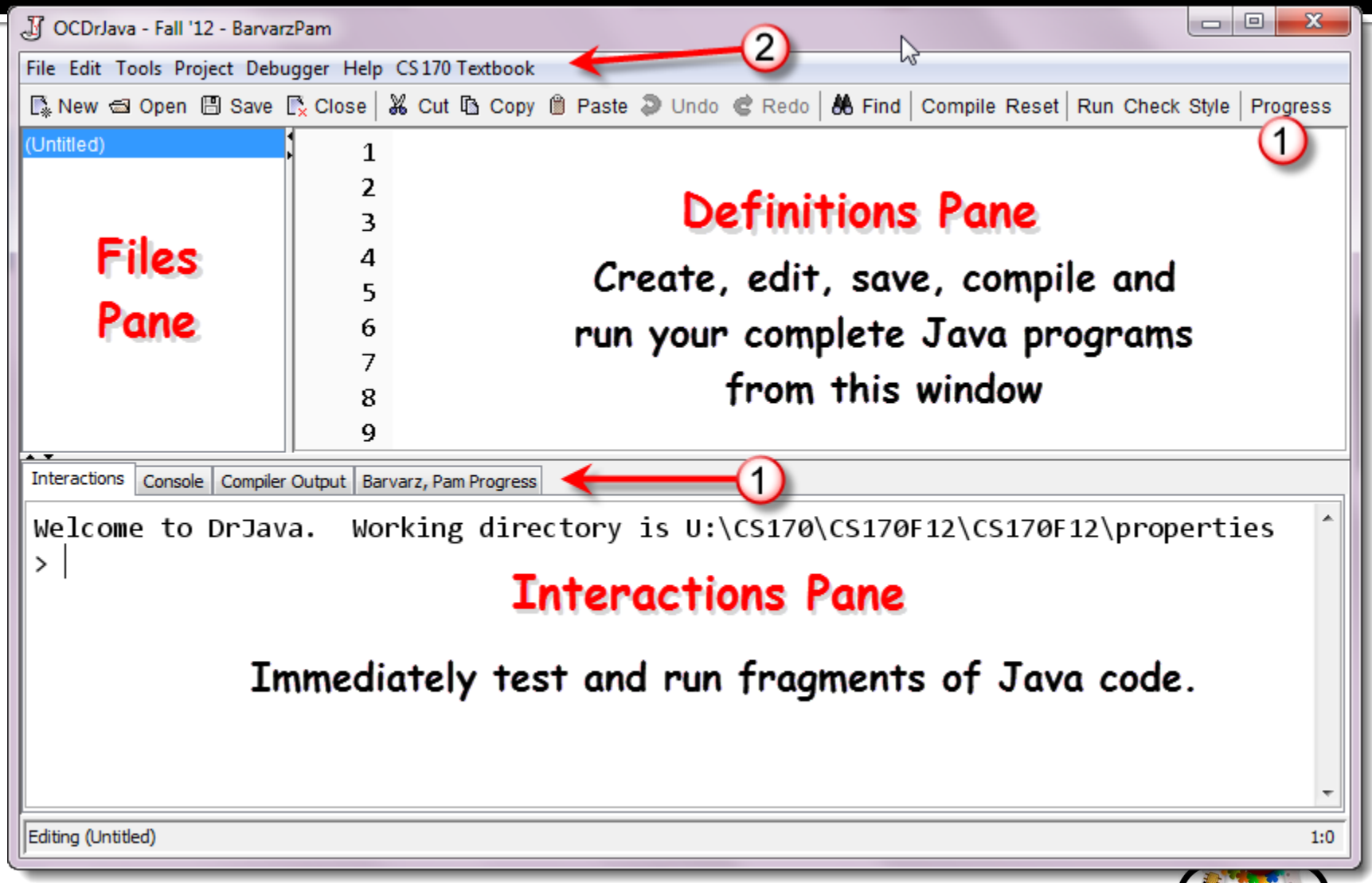
- You'll write your application using the **DrJava IDE**
  - IDE: Integrated Development Environment
- Copy **cs170home-F12** folder from Q: and place (drop) it on your U:\ (network) or onto a USB Thumb drive
  - **Q:\faculty5\sgilbert\cs170\code\cs170home-F12**
  - Also available on Blackboard and on syllabus as a Zip file
- Start the DrJava IDE by opening the **tools** folder and double-clicking **`OCDJ-F12.jar`**

Log into DrJava & CS 170

- Login name is your OCC email name (without @)
- Password is your student ID, including capital C



The DrJava IDE

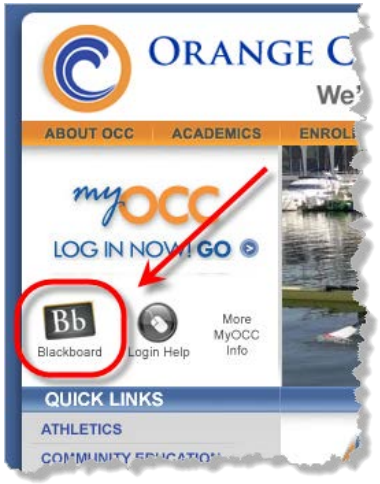


Meet Piazza

- For questions, answers and discussions, we'll be using ***Piazza***, a Web service specifically designed for students to post questions about the course.
  - Post all questions about course and assignments
  - If you email a technical question, I'll ask you to post it to Piazza instead. (Use email for personal questions)
- You should have already received an invitation in your OCC Student email.

Blackboard Learn

- Use your MyOCC password to get into **Blackboard**
  - Use link on OCC homepage or just remember URL
    - https://occ.blackboard.com
  - I'll post some additional resources and links
    - Solutions to the exercises (after deadlines)
    - Additional reading handouts
- We'll also use it to take the midterm and final, but you'll submit assignments using DrJava and the CS 170 Web site



Finish Up

- Complete these lab assignments today.
  - L01: log into DrJava for 1 point
  - L02: log into the CS 170 Piazza Web site and introduce yourself to your section of the class
  - L03: log into the CS 170 Web site using your browser: http://cs170-checkresults.appspot.com
    - Password is the same as for DrJava
    - This is where you'll take quizzes and labs
- Read Chapter 1 in the text; Java Mechanics. H01-03 due by beginning of class on Wed/Thurs