

Welcome to CSSE 220

- We are excited that you are here:
 - Hopefully you followed the instructions in the welcome email, installed eclipse and checked out the Java intro project
 - Start your computer & Eclipse
 - Pick up a quiz from the back table
 - Answer the first two questions

Goals for this course

- Move from Python to Java
 - Lots of little programs in the first few weeks
- Move from writing method bodies to writing whole classes from scratch
 - Learn how to design programs
- Break up larger programs into multiple classes
 - Arcade Game project
- Learn algorithms and data storage
 - Maps, Sorting, mixed patterns and problem solving

Course Introduction, Starting with Java

CSSE 220—Object-Oriented Software Development

Rose-Hulman Institute of Technology

Agenda

- Instructor intro
- Critical links
- We write some java code
 - Conditionals
 - Strings
 - Loops

Instructors Info

Critical Logistics

- You have 2 homework assignments in the very near future
- To see pertinent course information follow the “main course website” link on Moodle
- To see all assignment due dates, follow the “Course Schedule” link
- We will only go over the course policies if we have time, but they are covered in the "Course Syllabus"

Agenda

- ~~Instructor intro~~
- ~~Critical links~~
- ~~Verify eclipse and subclipse configuration~~
- **We write some java code**
 - **Conditionals**
 - **Strings**
 - **Loops**

Let's write hello world together

A First Java Program

In Java, all variable and function definitions are inside *class* definitions

main is where we start

```
public class HelloPrinter {  
    public static void main(String[] args) {  
        System.out.println("Hello, World!");  
    }  
}
```

System.out is Java's standard output stream. This is the variable called **out** in the **System** class.

System.out is an *object* from the **PrintStream** class. **PrintStream** has a *method* called **println()**.

In Class Coding

- You can do this in pairs or on your own
- There are 3 files:
 - ConditionalExamples.java
 - StringProbs.java
 - LoopProbs.java
- Each file contains several solved functions and several unsolved functions. Understand the code in the solved functions, and then use that code to help you write the unsolved functions.
- If you have a problem you can't quickly debug, or you need a hint – call myself or the TA over
- Test your code to ensure you're right
 - In ConditionalExamples.java, modify “main” to call your new functions with test values
 - In the String/Loop probs, run the corresponding Test file to test your code

What are Types?

- All variables in Java have a “type”
- Describes the data that can be stored in a variable
 - String – text only
 - short/int/long – whole numbers only
 - float/double – numbers with decimals
 - boolean – true or false
 - char – a single text character
- Classes – Class names are also types, let you define your own, more complex, types


Strings

- `String myString = "hello";`
- `String otherString = new String("hello2");`
- Java's way of storing text data
- Has many handy functions like `substring`, `charAt`, etc. that you will slowly learn
- But how do you find out about these cool functions?

Java API Documentation

- What's an API?
 - Application Programming Interface
- The Java API on-line
 - Google for: java api documentation 7
 - Or go to: <http://download.oracle.com/javase/8/docs/api/>
 - Also hopefully on your computer at
 - C:\Program Files\Java\jdk1.8.0_9\docs\api\index.html

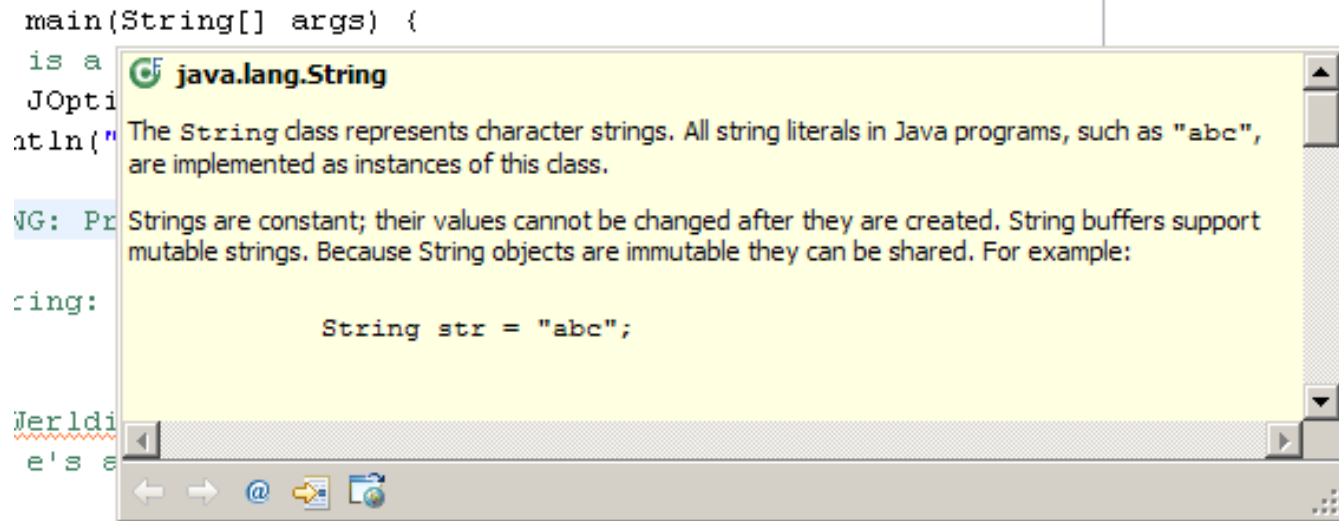
You need the 7 (or 8) to get the current version of Java



Note: Your version may be something other than 8.0_9. We recommend that you bookmark this page in your browser, so you can refer to it quickly, with or without an internet connection.

Java Documentation in Eclipse

- Setting up Java API documentation in Eclipse
 - Should be done already,
- Using the API documentation in Eclipse
 - Hover text
 - Open external documentation (Shift-F2)



Review Loops: while & for Loops

- While loop syntax: Similar to Python

- while (condition) {
 statements
- }

- For loop syntax: Different from Python

- for (initialization ; condition ; update) {
 statements
- }

In both cases, curly braces optional if only one statement in body; but be careful!

How to submit homework assignments

- We will be using “git” to have you submit your assignments
- On Wednesday we will show you how to submit HW1
 - It is very short and very simple

**HW1 DUE
WEDNESDAY NIGHT**

IT'S ON THE SCHEDULE PAGE.

**(IT IS YOUR RESPONSIBILITY TO KEEP UP WITH THE SCHEDULE
PAGE)**

**AS ALWAYS, EMAIL ME IF YOU
HAVE ANY QUESTIONS**