CSCI 136: Data Structures and Advanced Programming
Lecture 2
Java Basics
Instructor: Dan Barowy Williams

Topics
Quiz
Java basics
Static data types
Object orientation

Your to-dos
1. Lab 0, due Tuesday 2/8.
2. Read before Wed: Bailey, Ch 1-1.4 (inclusive).

Announcements
• Anonymous feedback form on website
• Senior Thesis Proposals this Friday, Feb 11 @ 2:35pm in Wege Auditorium (TCL 123)
Quiz

https://forms.gle/GKDgJzaUVnJ6CLP46

Static data types

byte 
short
int
long
float
double
boolean
char

and user-defined classes

(you should memorize this list)
The life of a program

development time  compile time  run time

Writing code  Running javac  Running java

Definition slide

A definition slide defines an important term that you should remember. You are strongly advised to write down and study these key terms.

(definition slides look the same to make them easy to spot!)

Static data types

A data type is a label, assigned to a variable, that ensures that only valid operations are allowed using that data.

A static data type is a type that is checked before a program runs. Static data types are usually checked at compile time. A program that fails a static type checks is not compiled.

(always be sure to submit lab code that compiles!)

Using data incorrectly yields a type error.
Let’s grow a few programs…

Java is Object-Oriented

- OO is a system for writing code that has properties highly valued by software engineers.
- Those properties are:
  - Code reuse
  - Modularity
  - Data abstraction
- It is sometimes said (incorrectly) that OO is about “modeling the real world.”
- OO is a very big topic, and it takes awhile to master all the pieces.
- For now, we are going to focus on data abstraction.

If you don’t understand all these words just yet, don’t worry.

Recap & Next Class

Today:

- Java basics
- Static data types
- Object orientation

Next class:

- Classes and objects
- Designing programs with classes
- Fancy input using Scanner