Griffin's OH 2/12/22

Announcements

1. Problem Set 2 is due on Monday, please begin to work on it now if you haven't already
2. Quiz 2 is on Thursday 2/24/22
3. Programming Project 2 is due on 2/21/22
4. Extended Office Hours on 2/13/22 from 1-5pm at Math 207

Topics this Week

1. Review Class Design
2. Review Constructors
3. Review Accessor Methods
4. Review Mutator Methods
5. Review String Class

Review: Class Design

When we make Classes in Java, there is a typical design pattern that we tend to follow as we create our projects, we will cover different design techniques next week, but for now let's stick to the basics.

First, an important question: What are classes? And why are they important?

Review: Class Design

Classes serve as a unit of organization, since larger scale projects require multiple classes to run, think of classes like organs.

For the people who do not like biology and only prefer tech analogies, then think of the class as a blueprint for for the objects you are making, with the object being the final product.

Classes are important because they organize the code we write, and provide important functionality, in fact one of the datatypes you already are used to is a datatype, more on that later.

Review: Constructors

Constructors are special methods that are used to initialize your instance variables or 'construct' your object.

They always have the same name as your class, and there is no return type on them

We will see constructors during the code portion of the session later on

Review: Accessor Methods

Each of your instance variables that you want the user to have non-direct access to needs an accessor method associated with it. As the name suggests, accessor methods, get access to the variable in memory and returns the value to the user. These methods have a return type that match the variable in question and do not take parameters.

Review: Mutator Methods

Each of your instance variables that you want the user to be able to change needs a mutator method associated with it. As the name suggests, mutator methods, mutate the variable in memory. These methods have a return type of void (meaning they do not return anything) and take the new value as a parameter.

Review: The String Class

Strings are a datatype that you have already used in lecture and in the problem sets. They store sequences of characters and have many methods that will be useful to learn and will be covered during the live coding portion, but here are some of the most useful:

1. .equals
2. .substring
3. .contains