SpaceAdventure
Lesson 10

Description

Add additional Planet objects to the PlanetarySystem planets array.

```
Welcome to the Solar System!
There are 8 planets to explore.
What is your name?
Jane
Nice to meet you, Jane. My name is Eliza, I'm an old friend of Siri.
Let's go on an adventure!
Shall I randomly choose a planet for you to visit? (Y or N)
Y
Ok! Traveling to...
```

Learning Outcomes

- Practice object instantiation, passing arguments, and adding objects to an array.
- Point out repetitive code, and criticize how it may be improved.

Vocabulary

initializer	instantiate	array
append	refactor	

Materials

- **SpaceAdventure Lesson 10** Xcode project

Opening

How might you describe the other planets in our solar system?

Agenda

- Within the `SpaceAdventure` initializer, explicitly instantiate eight `Planet` objects, and add each one to the `planets` array.

```
init() {
   let mercury = Planet(name: "Mercury", description: "A very hot
      planet, closest to the sun.")
   ...
   let neptune = Planet(name: "Neptune", description: "A very cold
      planet, furthest from the sun.")

   planetarySystem.planets.append(mercury)
   ...
   planetarySystem.planets.append(neptune)
}
```

- Discuss the repetitive code in the initializer, and assert that students should return to improve, or "refactor," the initializer later.
- Add a `TODO` comment to the body of the initializer.

```
// TODO: Reduce repetitive code.
```

- Run the program (⌘R), and observe that the console (⇧⌘C) displays that "there are 8 planets to explore."

Closing

Can you think of a way we can use the array of planets to let the traveler specify the planet he or she wishes to travel to?

Modifications And Extensions

- Delete the repeated calls to append, and use the Swift array literal syntax (`[...]`) to initialize the planets array.

Resources

The Swift Programming Language: About Swift https://developer.apple.com/library/prerelease/ios/documentation/Swift/Conceptual/Swift_Programming_Language/

The Swift Programming Language: A Swift Tour https://developer.apple.com/library/prerelease/ios/documentation/Swift/Conceptual/Swift_Programming_Language/GuidedTour.html

The Swift Programming Language: The Basics https://developer.apple.com/library/prerelease/ios/documentation/Swift/Conceptual/Swift_Programming_Language/TheBasics.html

The Swift Programming Language: Classes and Structures https://developer.apple.com/library/ios/documentation/Swift/Conceptual/Swift_Programming_Language/ClassesAndStructures.html

The Swift Programming Language: Initialization https://developer.apple.com/library/ios/documentation/Swift/Conceptual/Swift_Programming_Language/Initialization.html

The Swift Programming Language: Collection Types https://developer.apple.com/library/ios/documentation/Swift/Conceptual/Swift_Programming_Language/CollectionTypes.html

Swift Standard Library Reference: Array https://developer.apple.com/library/ios/documentation/General/Reference/SwiftStandardLibraryReference/Array.html