# Lesson 7.02: User-Defined Types, Part 2 ## Learning Objectives Students will be able to... * Define and identify: **self**, **`__init__`** * Create a class with an `init` method * Understand and use the `self` argument * Instantiate a class with arguments ## Materials/Preparation * [Do Now] * [Lab - Pet Class] ([printable lab document]) ([editable lab document]) * [Associated Reading - section 7.2] (https://tealsk12.gitbook.io/intro-cs-2/readings#7-2) * Read through the do now, lesson, and lab so that you are familiar with the requirements and can assist students ## Pacing Guide | **Duration** | **Description** | | ---------- | ----------- | | 5 Minutes | Do Now | | 10 Minutes | Lesson | | 35 Minutes | Lab | | 5 Minutes | Debrief | ## Instructor's Notes ### 1. Do Now * Display the Do Now on the board. * Students use the `__init__` method and explore how to initialize new objects with one or more arguments. ### 2. Lesson #### Discuss the Do Now * Ask Students the following * What is the name of the class? * Where does the Pet object get instantiated? #### Instruction - `__init__` * `__init__` is a special function that is called when the class is first initialized. * If there is a print statement added to the `__init__` method, when would it get printed? #### Instruction - `self` * `self` is a way of referring to the instance within a function. * What does `self.name` do and how does that relate to what `my_pet.name` does? * Previously we had added attributes *after* the class was instantiated, but `self` allows for us to assign those at once in a single method. ### 3. Lab * Students will make a Pet class. Each pet will have an animal type, color, food, noise, and name. * Next students write a function that will take a list of pets and print out their name and the food they like to eat. ### 4. Debrief * Check for student understanding and completion of the lab. * Review the two key concepts introduced today (`self` and `__init__`) ## Accommodation/Differentiation As with the previous lesson, be prepared for some students to struggle with the new vocabulary and concepts being introduced. Reinforce the use of vocabulary such as **instantiate**, **object**, and **attribute** so that students are consistently exposed to how to use these terms. ## Forum discussion [Lesson 7.02: User-Defined Types, Part 2 (TEALS Discourse Account Required)] (https://forums.tealsk12.org/c/2nd-semester-unit-7-classes/lesson-7-02-user-defined-types-part-2) [Do Now]:do_now.md.html [Lab - Pet Class]:lab.md.html [printable lab document]: https://github.com/TEALSK12/2nd-semester-introduction-to-computer-science/raw/master/units/7_unit/02_lesson/lab.pdf [editable lab document]: https://github.com/TEALSK12/2nd-semester-introduction-to-computer-science/raw/master/units/7_unit/02_lesson/lab.docx