

Lesson 2.05: Lists Part 2 ## Learning Objectives Students will be able to... * Define and identify: **index**, **slice**, **append**, **pop**, **remove** * Slice a list * Add and remove elements from a list ## Materials/Preparation * [Do Now] * [Lab - Tic-Tac-Toe] ([printable lab document]) ([editable lab document]) * [Associated Readings 2.5](https://tealsk12.gitbook.io/intro-cs-2/readings#2-5) * Read through the do now, lesson, and lab so that you are familiar with the requirements and can assist students ## Pacing Guide | **Duration** | **Description** | | --
----- | ----- | | 10 Minutes | Do Now | | 10 Minutes | Lesson | | 30 Minutes | Lab | | 5 Minutes | Debrief | ## Instructor's Notes ### 1. Do Now * Students may need more time than usual to fully go through this lesson's Do Now. ### 2. Lesson ##### Instruction * Ask students what doing `a[0:2]` in the Do Now did. * Define **slicing**: a list operation that gives back a list starting from the index to the left of the colon and going up to the index to the right of the colon. * Note that slicing doesn't exist in Snap! * Ask students what the list would return if you did `a[1:2]`. * Explore the differences between `remove` and `pop`, asking for student input. * Ask students what the plus sign and `append` do to a list. * Ask students to write down or brainstorm how they would represent a Tic-Tac-Toe board using lists. * Go over the list `in` operation. Ask what the return value is (Boolean expression). * Have students practice using the `in` operation in an if statement. ##### Demonstration * Create a Tic-Tac-Toe board with students in class. ### 3. Lab * Students practice slicing, adding, and removing elements from some given lists. * Students create a single move Tic-Tac-Toe game ### 4. Debrief * Check student progress and completion of the lab, wrap up by taking any final questions. ## Accommodation/Differentiation * If students are moving quickly, start the next topic of using a while loop as a game loop. Explore the concept of keeping score for the game. * If students are moving slowly then spend an extra day reviewing lists and completing lab activities. ## Quiz Option There is also an opportunity for a quiz after the game loop lesson and before the project. ## Forum discussion [Lesson 2.05: Lists 2 (TEALS Discourse Account Required)] (https://forums.tealsk12.org/c/2nd-semester-unit-2/lesson-2-05-lists-2) [Do Now]:do_now.md.html [Lab - Tic-Tac-Toe]:lab.md.html [printable lab document]: https://github.com/TEALSK12/2nd-semester-introduction-to-computer-science/raw/master/units/2_unit/05_lesson/lab.pdf [editable lab document]: https://github.com/TEALSK12/2nd-semester-introduction-to-computer-science/raw/master/units/2_unit/05_lesson/lab.docx