Lesson 3.03: Return vs Print ## Learning Objectives Students will be able to... * Define and identify: **return, none** * Explain and demonstrate the difference between printing and returning ## Materials/Preparation * [Do Now] * [Lab - War (Card Game)] ([printable lab document]) ([editable lab document]) * [Associated Reading - section 3.3](https://tealsk12.gitbook.io/intro-cs-2/readings#3-3) * Read through the do now, lesson, and lab so that you are familiar with the requirements and can assist students. * Note that this lesson may take two days. ## Day 1 Pacing | **Duration** | **Description** | | ---------- | ----------- | | 5 Minutes | Do Now | | 10 Minutes | Lesson | | 35 Minutes | Lab | | 5 Minutes | Debrief | ## Day 2 Pacing | **Duration** | **Description** | | ---------- | ----------- | | 5 Minutes | Do Now | | 40 Minutes | Lab | | 5 Minutes | Debrief | ## Instructor's Notes ### 1. Do Now * Students experiment with a function that returns a value, but they must add a print command to output that value. ### 2. Lesson * Ask students about what they think the difference between returning and printing is. #### Student Sharing * Get a volunteer to describe how they rewrote the code in the Do Now to get a value output. * Ask a student to write the code on the board. #### Discussion * Discuss the concept of the function contract again, explaining that the functions we will work with have both inputs and outputs. * Returning is a concept in Snap!, just with a different name: reporting. `![Max Function including the reporter Block](max-block.png)` #### Building a Structure Activity 1. One student volunteer represents the `give_card` function. 2. This students holds the deck of cards and stands by the board. 3. On the board display the `give_card` function in code code that only **prints** the value of a randomly chosen card. 4. Students 'call' the student and request cards, which then the student follows the instructions and draws ('prints') the card on the board. 5. Display a new `give_card` function that **returns** a card instead. 6. Have students 'call' the function, however this time have the `give_card` student pass out the card when a student calls him/her. 7. * Debrief the activity and talk about what was learned. ### 3. Lab * Given a shuffled deck list, students will create a program that plays the game 'War' with the user. ### 4. Debrief * Check student progress and completion of the lab, wrap up by taking any final questions. ## Accommodation/Differentiation As an extension activity, ask students to research the shuffle function and the functions associated with it. ## Forum discussion [Lesson 3.03: Return vs Print (TEALS Discourse Account Required)](https://forums.tealsk12.org/c/2nd-semester-unit-3-functions/lesson-3-03-return-vs-print) [Do Now]:do_now.md.html [Lab - War (Card Game)]:lab.md.html [printable lab document]: https://github.com/TEALSK12/2nd-semester-introduction-to-computer-science/raw/master/units/3_unit/03_lesson/lab.pdf [editable lab document]: https://github.com/TEALSK12/2nd-semester-introduction-to-computer-science/raw/master/units/3_unit/03_lesson/lab.docx