Lesson 2.07: Project ## Learning Objectives Students will be able to... * Use knowledge of lists, Booleans, conditionals, and while loops to create a text-based adventure game. ## Materials * [Project Spec - Text Monster] ([printable project Spec]) ([editable project spec]) * [Text Monster Starter Code] (https://github.com/TEALSK12/2nd-semester-introduction-to-computer-science/raw/master/units/2_unit/07_lesson/text_Monster_Starter_Code.py) * [Alternate Project Spec - Todo List] ([printable Alternate project Spec]) ([editable Alternate project spec]) * [Editable Grading Rubric] (https://github.com/TEALSK12/2nd-semester-introduction-to-computer-science/raw/master/units/2_unit/07_lesson/rubric.docx) * Sample Solutions (access protected resources by clicking on "Additional Curriculum Materials" on the [TEALS Dashboard]) ## Preparation * Read through the [Associated Readings 2.7](https://tealsk12.gitbook.io/intro-cs-2/readings#2-7) * Try creating your own variation on the Text Monster code so you are familiar with the potential challenges and bugs your students will hit. * Review [4 Steps to Solve Any CS Problem] * Update the Project Spec of your selected project as needed to meet your grading requirements ### Day 1 Pacing Guide | **Duration** | **Description** | | ---------- | ----------- | | 10 Minutes | Project Overview/Demo| | 40 Minutes | Design | | 5 Minutes | Debrief | ### Days 2 - 9 Pacing Guide | **Duration** | **Description** | | ---------- | ----------- | | 10 Minutes | Review | | 40 Minutes | Project Work| | 5 Minutes | Debrief | ## Instructor's Notes ### 1. 4 Steps to Solve Any CS Problem * Review [4 Steps to Solve Any CS Problem] ### 2. Project Overview/Demo * Distribute the project spec to all students and walk them through the goals and requirements of the project. * Show a demo of a completed project. * Go over specific design considerations from the project spec: * Introduce the concept of global variables and how they will be useful here. * Identify the importance of the "User Pocket" and how to use a list along with `append` and `remove` for this information. ### 3. Design * Have students stay at their desks and write down what lists they'll need. * They should break up the project into parts: parsing user input, keeping track of players position, returning what is at the player's position . ### 4. Debrief/Review * During discussion and warp up at the end of class, get a feeling for where students are in the project. * During the review the next morning cover the topics/areas that students are struggling on and present tips, suggestions, and goals for that day. ## Accommodation/Differentiation * Make sure to do status checks with all students throughout the project. * Identify students that are struggling on the project after the first few days and provide additional scaffolding & support as needed. * For any students that are advancing rapidly through the project, give them extension ideas such as adding a new feature or floor to the game. * Advanced students can also be paired as tutors/helpers with struggling students. ## Grading ### Objective Scoring Breakdown [Editable Grading Rubric] (https://github.com/TEALSK12/2nd-semester-introduction-to-computer-science/raw/master/units/2_unit/07_lesson/rubric.docx) Student correctly identifies data types (Lesson 2.01) - Assessed in Unit 3 | Points | Percentage| Objective | Lesson | | :---: | :---: | --- | --- | | 3 | 12% | Student correctly uses conditionals to maintain flow of control|2.02, 2.03 | | 9 | 36% | Student correctly uses lists | 2.04 2.05 | | 3 | 12% | Student can correctly use the while loop | 2.06 | | 5 | 20% | Student can decompose a problem to create a program from a brief | | | 5 | 20% | Student uses naming/ syntax conventions and comments to increase readability | | | **25** | **Total Points** | | | ### Scoring Consideration You may need to adjust the points in order to fit your class. Treat the percentages as a guide to determine how to weight the objectives being assessed. ## Forum discussion [Lesson 2.07: Text Game (TEALS Discourse Account Required)] (https://forums.tealsk12.org/c/2nd-semester-unit-2/lesson-2-07-text-game) [Project Spec - Text Monster]: project.md.html [Alternate Project Spec - tODO List]: project.md.html [Text Monster Game - Example Code]: project_file.py [TEALS Dashboard]:http:/www.tealsk12.org/dashboard [4 Steps to Solve Any CS Problem]:https://github.com/TEALS-IntroCS/2nd-semester-introduction-to-computer-science-principles/raw/master/units/4%20Steps%20to%20Solve%20Any%20CS%20Problem.pdf [printable project Spec]: https://github.com/TEALSK12/2nd-semester-introduction-to-computer-science/raw/master/units/2_unit/07_lesson/project.pdf [editable project spec]: https://github.com/TEALSK12/2nd-semester-introduction-to-computer-science/raw/master/units/2_unit/07_lesson/project.docx [printable alternate project Spec]: https://github.com/TEALSK12/2nd-semester-introduction-to-computer-science/raw/master/units/2_unit/07_lesson/alternate_project.pdf [editable alternate project spec]: https://github.com/TEALSK12/2nd-semester-introduction-to-computer-science/raw/master/units/2_unit/07_lesson/alternate_project.docx