**Problem 1.1.7 Build a Greenfoot Game**

|  |  |
| --- | --- |
| **Introduction**  Now that you have delved into the fundamentals of Java programming in Greenfoot and authored two simple games, you are ready to do the whole process on your own. In this Project, we will be working with some scenario file sets to create a Greenfoot game entirely by ourselves. |  |

**Materials**

* Computer with Greenfoot
* Choose one scenario set from the source files folder of 1.1.8

**Procedure**

1. Review the powerpoint on program design. Review the criteria and rubric for the project (both in the 1.1.8 folder).
2. Brainstorm ideas. Follow the guidelines for brainstorming: never criticize ideas during brainstorming, but “piling on” is welcome.
3. Develop one or two of your ideas with further discussion and documentation. Start a list of basic features that you must accomplish during the project timeline.
4. Strategize, code, and test in small increments.
   1. Include Javadoc comments and basic comments as you develop your solution
   2. Debug as you go.
5. Once complete, have at least two other people test out your program and get their feedback. Work feedback into the program.
6. We will hold a Gallery Walk and Elevator Speech for the projects once they are complete!

**General Criteria (see rubric for specifics)**

* Choose a scenario file set or find / create one of your own.
* The game must include the following elements:
  + player character controllable with the keyboard
  + enemies
  + win condition
  + lose condition
  + scoring rules
  + String feedback such as a score report / win message / lose message
  + at least 4 classes
  + if structures
  + Javadoc comments for each class and method
  + comments in code
* Keep it simple (KISS)! You do not need any structures we haven’t covered such as loops, Arrays, ArrayLists, String operations other than concatenation, math operations other than integer addition and subtraction, floats, doubles, etc. You can try these, but...be careful!
* We aren’t good enough to follow the Don’t Repeat Yourself (DRY) rule as much as we’d like - so don’t sweat a bit of repetition for now!

**Some additional advice:**

* Read the rubrics. Plan your project to meet all of the rubric requirements.
* Know what you want to accomplish **before** you start.
* Exchange contact info with your partner. Inform each other if you will not be at school etc. during the project period.
* Find code online that accomplishes something you want to do but DO NOT look for code **before** you know what you want to do - it will just confuse you!!
* Import an animated .gif file to animate your character. Scratch will give you a frame-by-frame costume set that you can use. You can try a site like: [**https://giphy.com/search/game-character-animation**](https://giphy.com/search/game-character-animation)
* Edit picture files in [**https://pixlr.com/**](https://pixlr.com/) if you need better tools than Scratch offers.
* Here’s a simple animation to look at: [**https://scratch.mit.edu/projects/172922716/#editor**](https://scratch.mit.edu/projects/172922716/#editor)
* The powerpoint for this project suggests a planning process you can follow if you need project advice.
* Remember: KISS and DRY