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Module 3

Milestone Two

Enhancement One: Software, Design, and Engineering

Narrative

This artifact is a very simple text-based game where the player enters commands to navigate to each planet. The player must acquire all six artifacts before progressing to the boss on the final planet. If the player does not have all artifacts, they will be defeated. I created this artifact t in IT 140 Intro to Scripting.

I selected this item because it satisfies the Software Engineering and Design category. I had to develop pseudocode and build this text-based game from scratch using a different computing language. The design was slightly different in Java than in Python. This is the perfect project to showcase the knowledge of program design and developing code from scratch. The artifact was improved by adding checks using if/else statements that were not present in the Python version. In the Python version, if the player enters a command without the keyword “go,” the program crashes and exits with code 1. The enhanced version makes a check for this and prompts the player to enter a valid command. I also made error messages stand out more than in the previous design.

Course Outcome:

* Demonstrate an ability to use well-founded and innovative techniques, skills, and tools in computing practices for the purpose of implementing computer solutions that deliver value and accomplish industry-specific goals (software engineering/design/database)
* I have demonstrated the use of a well-founded and innovative technique by finding the appropriate data structure for this project. I demonstrate skills by using said data structure to create a map in which the player can navigate to different planets. Tools that I used include the split method so that I can process each word of user’s input. This allowed me to provide the necessary checks to prevent the program from crashing. Using the split method helped me deliver value and accomplish industry-specific goals in software engineering and design.

I learned so much during this process. I learned how to work with HashMaps and how to use the split command with delimiter. I learned how to access values in my HashMap by getting their corresponding keys. One major challenge I faced was, surprisingly, with the Scanner class. I used the delimiter with the split method. Because the delimiter was set to spaces, the scanner was not picking up the full name of the artifacts (i.e. Artifact 1). It was just reading “Artifact” and because this didn’t match what was in my HashMap, the program would take me to my error block. I finally realized that because the delimiter is a space, I had to change the regex to 2. This was a great learning experience.