Software Engineering Team Project: Deliverable #4

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Team Members

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Introduction

The purpose of Deliverable #4 is to present a completed design and implementation of our testing framework as specified in **Deliverable #3**. This deliverable includes 25 test cases that our framework automatically uses to test our H/FOSS project, as well as our process arriving at this state.

Process

We decided to not use the test cases we came up with for the last deliverable, as they only test getters and setters, and nothing the operating system used in calculations or did anything other than store data. They helped us learn more about the way Sugar is set up and the difficulties inherent in testing Sugar (mainly the dependencies), but ultimately do not reveal a lot about the system and aren't very complex tests. To that end, we've removed the sugar-master folder from our repository.

Instead, our test cases now come from some of the more complex math functions in the operating system that some of the physics and math activities rely on. These include a factorizing function that searches for the prime factors of a number, a function that takes in a binary number and converts it to a decimal number, a function that does the opposite, and a function that determines whether or not a number is an integer. Each of these functions has the same rough spread of inputs: Null; Empty; A character string; 0; A non-zero integer that satisfies the test conditions; A non-zero integer that does not satisfy the test conditions (if applicable)

We selected this testing scheme to be able to cover the entire spread of input options possible, to ensure that the functions can handle any input. The remaining functions that these activities perform are handled by the PyGame library, which is already rather robustly tested.

Report

Our test script is now written in Python, and takes in and parses the information in the text case files to run the test cases automatically, including outputting an HTML table. We're having issues getting the correct number of test case outputs to print, and have yet to implement more complex CSS formatting in the HTML.