Computer Science I Testing & Debugging

CSCI-141 Homework

1 Tasks

You are to debug and develop test suites for 2 programs and answer some questions.

1.1 Turtle Problem

The first problem to debug and test is a recursive turtle program that draws incorrectly. Below are images of correct output and incorrect output.
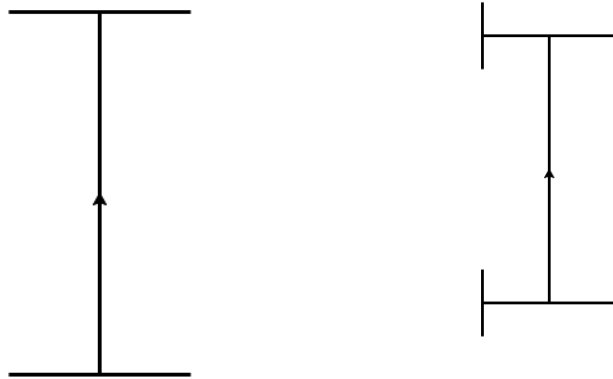
Figure 1: Correct drawings: left drawing is *depth == 2*, and right is *depth == 3*

Figure 2: Incorrect: What the program draws when *depth == 3* output

The turtle program is in the `problem1.py` file.

1.2 String Reverse Problem

Another provided file contains a function that tells whether two given strings are reverses of each other. Unfortunately the function does not work correctly, and there are no tests available to show when and where it fails.

The mission is to find the problem with the code, fix it, and develop a function containing pass/fail tests that can be used to validate the function.

2 'Implementation'

2.1 Provided Files

This assignment has these parts, which were zipped together:
- `TestDebug-stu.pdf`, this document.
- `problem1.py`, the turtle problem.
- `problem2.py`, the string problem.
- `questions.txt`, questions to answer at the end.

2.2 What To Do

1. Study the `.py` files that accompany this document. These files contains the instructions for completing this assignment. For each program file:
   - Run the program to see how it works and how it fails.
   - Study the code content.
   - Read and follow the file's instructions.
   - Develop tests following the file's instructions.
   - Use a debugger following the instructions.
   - Correct the code marking the locations as described by the instructions.
2. Answer the questions found in the `questions.txt` file.

2.3 Submission

Submit your solution by **zipping** your files into a file named `test_debug_hw.zip` and uploading to the myCourses dropbox for this assignment. **You must use zip, not rar, 7z or another compression format.**