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CS 126L Section 2

20 March 2017

Lab 06 - Banners

1. Problem Statement

The goal of this project is to make a method that will convert a regular sentence to a big ACSII banner. This banner should be able to be printed horizontally and vertically, and the sentence shouldn't have to be case sensitive for it to work. The font size and design of the banner is up to use to implement, though it being 4 characters wide and high is the minimum.

Requirements

- Two parameters
    - String input for what is to be printed
    - Input to signify if the banner is horizontal or vertical
- Minimum font size and design is 4 characters wide and high
- PEP8 compliant

2. Planning

For the method parameters, we decided that the first would contain the sentence to be converted and printed, as per the requirements. The second parameter, which dictates whether the banner is horizontal or vertical will be an integer, with 0 dictating horizontal and 1 dictating vertical. For the design of the banner characters, we decided the will all be five by five characters, forming the letters using "#". As for storing the letters, we decided to use a dictionary, whose keys where the letters and whose values where the banner characters. As for the banner characters, they are lists with five indices, each index being a String five characters long. With this, the basic structure of the program is in place, and all that needs to be done is to write two separate loops to print the banner horizontally and vertically.

3. Implementation and Testing

Some slight deviations from the initial plan. First, we added a space character that was five lines of five character long empty Strings, so we could add spaces into the banner easily. Second, we partially sanitized the input by forcing it to be all uppercase, thus preventing any errors involving lowercase letters. As for the loops, the horizontal loop works by printing each index of every word sequentially, so for "AB", it prints the first A index, then the first B index, then so on and so

forth. For the vertical, it prints each banner letter one at a time going down. The test cases we have, while simple, adequately test and show the output of the function is correct.

4. Reflection

In retrospect, we didn't like how we listed each character in a straight line down the program, taking 160 lines of code, where as the actual program itself is only 36 lines of code. It would be better to store the letters in some other file, like a .txt document or a .xml document and read the banner letters off the document to then print them. Also we should put some sort of try catch block to make sure the inputted String has no numbers and output a special exception if so. Other than that, this simple program is complete.