

Severance Chapter 11 Coding Assignment

Exercise 1

Write a program that uses the `re.search()` function to identify matches to simple regex patterns. Prompt the user for the input filename. Read and process each line in the file. Search for lines that contain the string `"is-futurestudents@illinois.edu"`. Count the following occurrences:

- Lines that contain the target string
- Lines that begin with the target string
- Lines that end with the target string
- Lines that **both** begin **or** end with the target string

Please note that that I have revised the requirements for the last count to be based upon OR rather than AND. It turns out that the regular expression to implement the AND version is too hard. If you manage to make the AND version work, good for you! Otherwise, I will be content that you made the OR version work.

Print the counts for each of these on the console.

Create a test file named `"futures.txt"`. Create test data that covers all appropriate test cases. Fully test the program. Make sure that the program behaves appropriately when the input file is empty.

Exercise 2

Write a program uses the `re.findall()` function to extract matches to a moderately complex regex pattern. Prompt the user for the input filename. Read and process each line in the file. Search for character strings that contain zip codes. Match the following alternative formats:

- Zip: 5 decimal digits (08033)
- Zip+4: 5 decimal digits, a hyphen, 4 decimal digits (60025-2252)

Print each match on the console on its own line.

Create a test file named `"zipcode.txt"`. Create test data that covers all appropriate test cases. Fully test the program. Make sure that the program behaves appropriately when the input file is empty.

Exercise 3

This exercise is a superset of the tutorial problem. So, begin by following the tutorial, reproducing the tutorial code on your own machine.

Then, revise the `validate_pw()` function in the `lis452.pw` module so that it detects the following additional password criteria:

- Contains at least one special character from the following: `!@#$%^&*`
- Does not contain any of the following common words in any combination of upper and lower-case:
 - `password`
 - `secret`

Add test cases to those presented in the tutorial so that the new code is fully tested. Test program fully.

Exercise 4

This exercise is a variant of the tutorial problem. So, begin by following the tutorial and reproducing the tutorial code on your own machine. Make sure to give your program file the proper name.

Change the code from the tutorial problem so that you extract the URL values for the `“src”` attributes rather than the `“href”` attributes.

Use the `“adjunct.aspx”` test data file provided in the weekly schedule for test data. Fully test the revised program.

As an extra challenge, try modifying your regular expression to allow for `src` attributes that are coded by hand and may contain extra spaces surrounding the `“=”`. For instance:

```
src="/sites/all/themes/gslis/images/icon_search.png"
```

might be coded as:

```
src = "/sites/all/themes/gslis/images/icon_search.png"
```

Tools

Use PyCharm to create and test all python programs.

Submission Method

Follow the process that I demonstrated in the beginning of the semester regarding submitting your work. This involves:

- Locating the directory associated with your project in the file system.
- Compressing that directory into a single .ZIP file using a utility program.
- Submitting the properly named zip file to the submission activity for this assignment.

Due By

Please submit this assignment by the date and time shown in the Weekly Schedule.