Data Bootcamp: Python Fundamentals 1 Practice

Revised: February 20, 2018

1. Fix this code:

   ```
   bad_string = 'Sarah's code'
   ```

2. How would you convert the integer i $= 1234$ to the list

   ```
   l = ['1', '2', '3', '4']
   ```

3. Suppose **year** is a string containing the year of a particular piece of data; for example,

   ```
   year = '2016'
   ```

   How would we construct a *string* for the following year?

4. Suppose we have two variables, x and y. How would you switch their values, so that x takes on y's value and y takes on x's?

5. Set

   ```
   name = 'Jones'
   ```

   Use (a) tab completion to find a method that coverts **name** to upper case (capital) letters and (b) the Object inspector to find out how to use that method.

6. Set

   ```
   name = 'Ulysses'
   ```

   Use (a) tab completion to find a method that counts the number of appearances of the letter s and (b) the Object inspector to find out how to use that method.

7. Set

   ```
   long_string = 'salamandroid'
   ```

Find a method to replace the a's with asterisks.

8. Create the list

   ```
   list = [1, 2, 3, 4, 5]
   ```

   and using list methods

   - reverse the elements of l and print it
   - remove the number 4 from l and print it
   - append the float 1.5 to l and print it
   - sort the elements of l and print it

9. You are given the number (as a string) in the following form

   ```
   number = "32,054.23"
   ```

   How would you convert this into a valid float? You should get 32054.23.

10. You are given a name of the form

    ```
    firstname_lastname = 'john_doe'
    ```

    Save Firstname and Lastname variables with capitalized values using string methods.

11. You are given a list of the form: $l = [0, 1, 2, 4, 5]$. Use methods for lists to produce a corrected list which contains the number 3 between 2 and 4:

    ```
    l = [0, 1, 2, 3, 4, 5]
    ```

12. You are given a list of the form: $l = [\ldots, 1, 2, 4, 5, \ldots]$ (with an "unkown" number of first and last elements). Use methods for lists to produce a corrected list which contains the number 3 between 2 and 4:

    ```
    l = [..., 1, 2, 3, 4, 5, ...]
    ```

13. You are given strings of web domains of the form: $s =$'www.example.com'. You want to strip the **'www.'** and the **'.com'**. Use string methods to achieve this.

14. Write a Python program to get the part of the string

    ```
    link = 'https://play.spotify.com/collection/albums'
    ```

    before the last '/' character. You should get

    ```
    'https://play.spotify.com/collection'
    ```

15. **Hard!** Write a program to swap comma and dot in a string. In particular turn the string

    ```
    dot_comma = "32.054,23"
    ```

    into

    ```
    comma_dot = "32,054.23"
    ```

    Hint: look up the string methods **maketrans** and **translate**.