

Instructions:

In this assignment, the following constant(s) may be required:

$Bday = \underline{\hspace{2cm}}$ (for e.g. if your Date Of Birth is 29/03/2002 then, Bday is 29)

$d = 2 + (Bday \% 2) = \underline{\hspace{2cm}}$

$m = 1 + (Bday // 2) = \underline{\hspace{2cm}}$

By setting the corresponding values for the variables in your programming task, you will get 10 points.

Also, please note that all questions below are worth 10 points each.

For this assignment, please use [this online editor](#) at Process Feedback throughout your undefined work. After completing, please download and submit your process report PDF and code. Please consider following instructions while using the editor. Please note that only `main.py` will be executed when you try to run the code in the editor. So, please be mindful while trying to solve multiple questions using the tool. You might want to watch this [video tutorial](#) before you proceed.

- Avoid typing in external applications and paste your content here to prevent common errors.
- After completing your work, review the generated report within the editor.
- Download files to share or submit your work.
- If you download a report for sharing, please open the file to confirm it contains your complete work.

Need Assistance? Please click "Save Online" and email the link to support@processfeedback.org.

The questions below are based on Module 6, so the assumption here is you will use the appropriate string functions or regular expressions to manipulate strings to solve the questions asked..

1. Write a script with three python functions where the main script reads a line of text as a string, tokenizes the string with the `split()` method, passes the tokenized string list to each of the function mentioned below and prints the return values from these functions. [Use space characters as delimiters] (10 points)
 - a. The first function returns the tokens in reverse order.
 - b. The second function returns only those words beginning with the letter 'b' without using any regular expressions.
 - c. The last function outputs only those words ending with the letters 'ed' without using any regular expressions.
2. Reimplement the exercises in question 1.b and 1.c using regular expressions that capture the matching substrings, then display them in the main script. (10 points)
3. Write a script that reads a $2 * d$ letter word from the user and produces every possible $d + 1$ letter string, based on the word's letters. For example, if your $d = 2$, then the user input would be 4 letter words (like *bath* and all possible 3 letters word would include 'the', 'bat', 'hat', 'tab' and so on. [Investigate the functions from `itertools` module and use an appropriate function to automate this task.] (10 points)

4. Write a python script to use regular expressions to solve one of the problems given below. If your b-day is an odd number, solve problem b; else problem a. (10 points)
- a. Write a regular expression that searches a string and matches a valid number. A number can have any number of digits but can have only digits and a decimal point and possibly a leading sign. The decimal point is optional, but if it appears in the number, there must be only one and it must have digits on its left and its right. There should be whitespace or a beginning or end-of-line character on either side of a valid number.
 - b. Use a regular expression to search through a string and locate all valid URLs. For this problem, assume that a valid URL has the form http://www.domail_name.extension, where extension must be two or more characters.
5. Use regular expressions and the findall function to count the number of digits, non-digit characters, whitespace characters and words in a string. (10 points)
6. Below is the quote from **Legally Blonde**.
quote = (
"Because not I'm a Vanderbilt, suddenly white I'm trash? "
"grew I up in Bel Air, Warner. Across the street from Aaron Spelling. "
"think I most people would agree that's a lot better than some stinky old Vanderbilt."
)
Observe each "I" and "I'm" in the string. The word before it should be after it. For example, "Because not I'm" should be "Because I'm not". Please fix this. (10 points)
7. Below is the quote from **The Lord of the Rings: The Fellowship of the Ring**.
quote = "Aragorn: If by my life or death I can protect you I will. You have my sword.
Legolas: And you have my bow. Gimli: And my ax."
Please construct a list of the weapons that have been offered to Frodo. (10 points)