
# Class Activity 10: PYTHON 1

## Important Notes:

- This is an individual practical exercise.
- Practical assignments are based on objectives. If an objective has been achieved a mark will be allocated.

## Instructions:

- Create a Git Repository for this class activity and make sure you push all the work you complete during this activity to your created repository.
- Create a new Python script. It should execute the following steps:
    1. Count the number of Prime numbers in **your** student number. If *p* is the number of prime numbers in your student number, then apply the following logic: if *p* = 0 then increase *p* by 1.
    2. Let *q* be a random number between 25 and 50.
    3. Divide *q* by *p* >> Let *r* = *q* ⁒ *p* (**Round down to the nearest integer**)
    4. Generate *r* number of random strings (containing only letters of the alphabet) and store them in a list. The first string must comprise 5 characters, the second must comprise 7 characters, then it alternates from there onwards (5 chars, 7 chars, 5 chars, 7 chars, …)
    5. Now, sort the list by the number of vowels contained in the strings. Order the list descendingly where the strings with more vowels are moved to the front of the list and those with fewer vowels to the back.
- Print out (in the console) the result from each of the above steps.

## Example Output:

```
0. The student number is: 11357515

1. The number of prime numbers in this student number is: 5

2. The random number is:  36

3. The number of strings to be generated is:  7

4. List of Strings:
*****************
0  -  xyyzx
1  -  qducvrs
2  -  bnify
3  -  bozowcm
4  -  pxoxx
5  -  baemyda
6  -  yjooh
*****************

5. Sorted List:
*****************
0  -  baemyda (Vowels: 3)
1  -  bozowcm (Vowels: 2)
2  -  yjooh (Vowels: 2)
3  -  qducvrs (Vowels: 1)
4  -  bnify (Vowels: 1)
5  -  pxoxx (Vowels: 1)
6  -  xyyzx (Vowels: 0)
*****************
```

| INF 354 | | |
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| INFORMATIKA • DEPARTEMENT • INFORMATICS Universiteit van Pretoria University of Pretoria | **Class Activity 10: PYTHON (_____/ 25 marks)** | |
| **Student NR** | **Surname** | **Initials** |
| | | |
| | | |

| Checklist | Mark | MAX |
|---|---|---|
| **1**. Created Python Script that runs without any compilation errors | | **5** |
| **2**. Prime numbers count | | **5** |
| **3.** Calculates how many strings to generate correctly | | **5** |
| **4.** Generates list of strings as specified | | **5** |
| **5.** Sorts list of strings as specified | | **5** |
| **TOTAL** | | **25** |

| Presentation | Factor | Final Mark (25) |
|---|---|---|
| Student demonstrated an adequate understanding of the topics covered in this assignment as well as their application. | 1.0 | |
| The student showed a clear lack of understanding of the topics covered in this assignment and was not able to explain how these were applied. | 0.5 | |

| Version Control | Factor | Final Mark (25) |
|---|---|---|
| Student created a Git repository and pushed all work required by this activity to the repository. | 1.0 | |
| The student **failed to create** a Git repository and push all work required by this activity to the repository. | 0.5 | |