

# Python Exercises #1

## Mission 1: Solve it in various ways.

You have been provided with `word = "cYBerSecUrityIsHere"`.

### Goal:

Determine the indexes of capital letters, the script should print a list of them.

### Example:

Provided with "Hello" will print out a list of one item `capital = [0]`

### Tasks:

The best start is with building basic skills that will run into a capable script of the following problem.

- 1.1. Print out the first and the last letter of the string. (**Note:** use index numbers inside a bracket [index])
- 1.2. Print out the length of the string. (**Note:** use the `len()` function)
- 1.3. Create a new list defined with the second and the third letter in the word, print it out.
- 1.4. Python using **methods** - it's a build-in functions that appended to an object. Every type has its own methods. We define method using the **object** (word) appended with `.` and the **method name**.

### Example:

```
word = "cYBerSecUrityIsHere"
print(word.capitalize())
```

```
#Output:
CybersecurityIsHere
```

Try to use the next methods:

- `upper()`
- `lower()`

- 1.5. Use the **replace()** method to replace the **e** letter to **X**. You could get help about this method with the next print: (Getting help of certain types will categorize as `type.method` functions)

```
print(help(str.replace))
```

- 1.6. Use a for loop to iterate over the word variable and print out its characters separately.
- 1.7. Python uses methods that returns a Boolean statement of True or False.

Define new variables:

```
big = "A"
small = "b"
```

Use **isupper()** and **islower()** methods combined with **if statement** to determine if big is a capital letter and small is a lowercase. Print out "CAPITAL" or "LOWER" regarding the result.

- 1.8. Iterate over the word variable and create two new lists called "capitals" and "lowers" when an uppercase letter will be **appended** into "capitals" and lowercase to the "lowers" lists. Print out the contents of the lists.
- 1.9. Regarding 1.8. task we miss the sorting of **1** character.

Use the next help functions:

```
print(dir(str))
print(help(str))
```

Find the correct function that could sort **1** into a new defined list called "**numbers**"

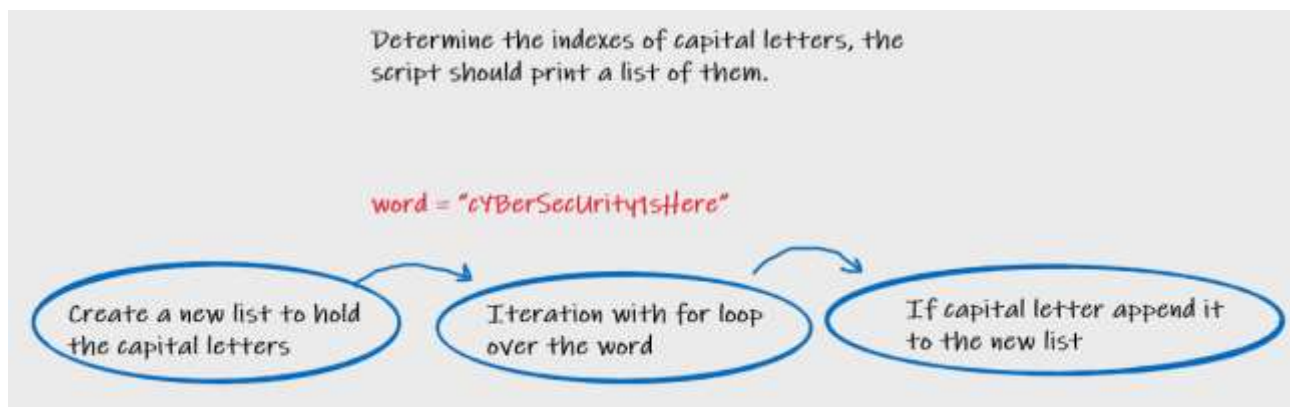
- 2.1. Use **help(str.index)** or **dir(str.index)** to get help about how to retrieve the index position of certain character.

Using the method function what is the index number of the following letters:

- c
- H
- S
- U

- 2.2. Iterate over the word variable and print out the indexes of each letter.
- 2.3. Iterate over the word variable and print out the index of letter only if the letter is match to **e**

Mind flow to solve the problem:



- 3.1. Write a script that will determine the indexes of capital letters, the script should print a list of them.

Use the next cases:

```
word = "cYBerSecUrity1sHere"
word = "HelloWorld"
word = "iMhErEtofaILyou214"
word = "%@$!sfa@SRQxvxs"
```

## Mission 2: Skills UP !

You have been provided with next variables:

```
just_var = "abc"
just_var = "hello"
just_var = "abba"
just_var = "whathappendinvegas"
```

Write a python script that will print out the middle letter - If there is no middle letter it returns a printed message of "sorry, there is no middle here".

1.1. Start with building a mind-flow chart, think in loud how you would approach this problem

Ask questions and search for solutions:

"How I determine the middle?"

"Should I base my search for the middle on indexes?"

"Maybe the length of the string is enough to determine the middle?"

1.2. Solve it.

## Mission 3: Double Letters

You have been provided with next variables:

```
letters = "hello"
letters = "nono"
letters = "abba"
letters = "noon"
```

Write a python script that will print out all the letters that followed by the same letter.

**Examples:**

1. If the word is "**moon**" the script will print out **o**
2. If the word is "**man**" the script will not print anything
3. If the word is "**bungee**" the script will output **e**