# More Exercises: Basic Syntax, Conditional Statements and Loops

Additional exercises for the [Python Fundamentals Course @SoftUni](https://softuni.bg/trainings/3368/python-fundamentals-may-2021).

Submit your solutions in the SoftUni judge system at <https://judge.softuni.bg/Contests/1720>.

***Note: All the exercises are excluded from your homework!***

## Find the Largest

You will be given a **number**. Print the **largest number** that can be **formed from the digits** of the given number.

num = list(input())  
num.sort(reverse=True) #sorts it in a descending order  
  
for k in range(len(num)):  
 print(num[k], end="")

The following RS solution receives only 80/100 :

input\_int = int(input())  
  
input\_str = str(input\_int)  
input\_map = map(int, input\_str)  
input\_list = list(input\_map)  
input\_list.sort(reverse=True)  
  
to\_string = [str(i) for i in input\_list]  
output\_string = ''.join(to\_string)  
output\_int = int(output\_string)  
  
print(output\_int)

Yet another RS solution:

input\_int = int(input())  
  
input\_str = str(input\_int)  
input\_list = list(input\_str)  
input\_list.sort(reverse=True)  
  
to\_string = [str(i) for i in input\_list]  
output\_string = ''.join(to\_string)  
output\_int = int(output\_string)  
  
print(output\_int)

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| 213 | 321 |
| 7389 | 9873 |

## Find the Capitals

Write a program that takes a **single string** and prints a **list** of all the **indices** of all the **capital letters.**

string = list(input())  
upper = []  
  
for i in range(len(string)):  
 if string[i].isupper():  
 upper.append(i)  
print(upper)

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| pYtHoN | [1, 3, 5] |
| CApiTAls | [0, 1, 4, 5] |

### Hint

If you do not know what lists are, search them in google, find out how to create them and add elements to them.

## Wolf in Sheep's Clothing

*Wolves have been reintroduced to Great Britain. You are a sheep farmer and are now plagued by wolves which pretend to be sheep. Fortunately, you are good at spotting them.*

Warn the sheep in front of the wolf that it is about to be eaten. Remember that you are standing at the front of the queue which is at the end of the list:

**[sheep, sheep, wolf, sheep, sheep] (YOU ARE HERE AT THE FRONT OF THE QUEUE)**

**4 3 2 1**

If the **wolf is the closest animal to you**, print **"Please go away and stop eating my sheep"**. Otherwise, return **"Oi! Sheep number N! You are about to be eaten by a wolf!"** where **N** is the sheep's **position** in the queue.

***Note: there will always be exactly one wolf in the list.***

### Input

The input will be a **single string** containing **the animals** separated by comma and a single space **", "**

string = input()  
list = string.split(", ")  
counter = 0  
position = 0  
  
if list[-1] == "wolf":  
 print("Please go away and stop eating my sheep")  
else:  
 for i in range(len(list)):  
 if list[i] == "sheep":  
 counter += 1  
 else:  
 counter = 0  
 print(f"Oi! Sheep number {counter}! You are about to be eaten by a wolf!")

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| sheep, sheep, wolf | Please go away and stop eating my sheep |
| wolf, sheep, sheep, sheep, sheep, sheep | Oi! Sheep number 5! You are about to be eaten by a wolf! |

## Sum of a Beach

Beaches are filled with sand, water, fish, and sun. Given a **string**, calculate how many times the words **"Sand", "Water", "Fish", and "Sun" appear** (**case insensitive**).

string = input().lower()  
sand = string.count('sand')  
water = string.count('water')  
fish = string.count('fish')  
sun = string.count('sun')  
print(sand+water+fish+sun)

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| WAtErSlIde | 1 |
| GolDeNSanDyWateRyBeaChSuNN | 3 |
| gOfIshsunesunFiSh | 4 |
| cItYTowNcARShoW | 0 |

## How Much Coffee Do You Need?

*Everybody knows that you passed to much time awake during nighttime...*

Your task is to define how much coffee you need to stay awake after your night. Until you receive the command "END", you need to read a single command. According to this command you will print the number of coffees you need to stay awake during day time.

***Note: If the count exceeds 5 please return 'You need extra sleep'.***

The list of events can contain the following:

* You have homework to do (**'coding'**).
* You have a dog or a cat that just decided to wake up too early (**'dog' or 'cat'**).
* You just watch a movie (**'movie'**).
* Other events can be present, and it will be represented by arbitrary string, just **ignore** this one.

Each event can be lowercase, or uppercase. If it is **lowercase,** you need **1 coffee** by event and if it is **uppercase** you need **2 coffees**.

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| dog  CAT  gaming  END | 3 |
| movie  CODING  MOVIE  CLEANING  cat  END | You need extra sleep |

command = input()  
coffee\_counter = 0  
  
while command != "END":  
 if command == "dog" or command == "cat" or command == "coding" or command == "movie":  
 coffee\_counter += 1  
 elif command == "DOG" or command == "CAT" or command == "CODING" or command == "MOVIE":  
 coffee\_counter += 2  
 command = input()  
  
if coffee\_counter > 5:  
 print("You need extra sleep")  
else:  
 print(coffee\_counter)