

# Data Science (CDA)

## Practical 8:

Introduction to python

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## Question 1

Write a python function to compute the factorial of a number.

## Question 2

Write a python program that takes a comma-separated string composed of several words as input and sorts the words and put them in a new string separating them by commas.

For instance, for the following input:

```
without,hurra,bag,world
```

The program should output:

```
bag,hurra,without,world
```

## Question 3

Write a python program that takes a string of words separated by spaces and writes the words after removing duplicate words and sorting them alphabetically.

For instance, for the following input:

```
eggs spam bacon spam spam bacon spam spam bacon
```

Then, the output should be:

```
bacon eggs spam
```

## Question 4

Write a python program that computes the word frequency of a string (the words are also separated by spaces). The output should show the words and their frequencies and the words should also be sorted alphabetically:

For instance, for the following input:

```
eggs spam bacon spam spam bacon spam spam bacon
```

Then, the output should be:

```
bacon:3  
eggs:1  
spam:5
```

## Question 5

Write a python program that takes an email address, such as `jorallo@dsic.upv.es`, and prints the affiliation (in this case, it should print `dsic`).

*Hint: Use regular expressions and `\w` to match letters.*