

# Python 101 - Exercises

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## Exercise 1

Write a program that will display the following text on the screen.

Python is an easy to learn, powerful programming language. It has efficient high-level data structures and a simple but effective approach.

source: <https://docs.python.org/3/tutorial/index.html>

## Exercise 2

Write a program that allows a person to personalize is employee tag atb FOO BAR.

```
*****
FOO BAR
*****
Name:
Departement:
*****
```

1. Ask the user to enter the information.
2. Display the tag to the user.
3. Make sure you correct anything typed in with incorrect case. (Ex: john doe should be John Doe).

## Exercise 3

Write a C program that convert a temperature from Fahrenheit to Centigrade. The conversion is done with the following formula:

$$C = (5/9) * (F - 32)$$

1. Ask the user to enter the Fahrenheit temperature.
2. Display the answer to the user.
3. Confirm the calculation using the following formula:

$$F = ((9.0 / 5.0) * C) + 32.0;$$

## Exercise 4

Calculate the discount on a purchase following the rules:

- purchases over 50 euros have a discount of 10%
- purchases over 25 euros have a discount of 10%
- purchases below 25 euros have no discount

Example:

```
Purchase value: 110.1
Discount (10.0%): 11.01
Purchase w/ discount: 110.0
```

1. Ask the user to enter the purchase value.
2. Display the answer to the user (as in the example).

## Exercise 5

Calculate the shipping costs following the rules:

- if the purchase is made from Portugal Continental no shipping costs are charged.
- if the purchase is made from Portugal:
  - Continental no shipping costs are charged.
  - Azores or Madeira: 5 euros
- if the purchase is made from an european country and the purchase value is higher than 50 euros:
  - 15 euros
- others:
  - 25 euros

Example:

```
Purchase value? 150
Where are you from? portugal
Are you from Azores or Madeira? [Y/N] y
Purchase value: 150.0
Shipping: 5
Purchase w/ shipping: 155.0
```

1. Ask user for the required information.
2. Display the answer to the user (as in the example).

## Exercise 6

Ask the user to enter the names of all the student in the classroom. Then return the list in alphabetical order.

Example:

```
Student name [empty to quit]: student1
Student name [empty to quit]: student3
Student name [empty to quit]: student2
Student name [empty to quit]:

Students:
student1
student2
student3
```

## Exercise 7

Create the CSV file with the information presented below :

```
Year,Make,Model,Description,Price
1997,Ford,E350,"ac, abs, moon",3000.00
1999,Chevy,"Venture ""Extended Edition""", "",4900.00
1999,Chevy,"Venture ""Extended Edition, Very Large""",,5000.00
1996,Jeep,Grand Cherokee,"MUST SELL! air, moon roof, loaded",4799.00
```

source: [https://en.wikipedia.org/wiki/Comma-separated\\_values](https://en.wikipedia.org/wiki/Comma-separated_values)

## Exercise 8

Using the `csv` module read the previous csv data file and display the values.

## Exercise 9

Create a function to append a text in a file with two parameters (text and filename)

1. Ask user to specify the file name and text.
2. Use your function to append in the file a new line the text.

## Exercise 10

Create a function to read the text of a file (given as a parameter).

1. Ask user to specify the file.
2. Use your function to display the file content.
3. Add error handling if the file is not found.

## Exercise 11

1. Ask the teacher to enter the ending for the session.
2. Display the time left considering the system clock.

Example:

```
Insert ending time [%H:%M]: 17:00
Current:  14:17:00
Time left: 2:43:00
```