Python Programming Exercises

For the exercises, create a **Jupyter notebook**. Use Python comment or markdown cells to indicate the exercise number related to the cell. At the end of the exercise, send your Jupyter notebook to luan.teylo@inria.fr with the subject: [DM_WEB][Exercise01][student_number][YOUR_NAME].

HARD Deadline: 16/02/2026

1. Hello World

Write a program that displays the message **"Hello World"** on the screen.

2. Display Input Number

Write a program that asks for a number and then displays the message:
"The number entered was [number]".

3. Sum of Two Numbers

Write a program that asks for two numbers and prints their sum.

4. Average of Four Grades

Write a program that asks for four bimonthly grades and displays the average.

5. Convert Meters to Centimeters

Write a program that converts a length from meters to centimeters.

6. Area of a Circle

Write a program that asks for the radius of a circle, calculates, and displays its area.

7. Double the Area of a Square

Write a program that calculates the area of a square and then shows twice this area to the user.

8. Monthly Salary Calculation

Write a program that asks how much you earn per hour and the number of hours worked in the month. Calculate and display your total salary for the given month.

9. Convert Fahrenheit to Celsius

Write a program that asks for the temperature in degrees Fahrenheit, converts, and displays the temperature in degrees Celsius.
Use the formula:
C = 5 * ((F - 32) / 9)

10. Convert Celsius to Fahrenheit

Write a program that asks for the temperature in degrees Celsius, converts, and displays it in degrees Fahrenheit.

11. Mathematical Operations

Write a program that asks for **two integers** and **one real number**. Calculate and display:

- The product of **twice the first number** with **half the second number**.
- The sum of **three times the first number** with the third number.
- The **third number raised to the cube**.

12. Ideal Weight Calculation

Given a person's height as input, write a program that calculates their ideal weight using the formula:
(72.7 * height) - 58

13. Fish Weight Regulation

João, an honest fisherman, bought a microcomputer to monitor his daily work yield.
According to São Paulo's fishing regulations, any fish weight **above 50 kg** requires a fine of **R$ 4.00 per excess kilogram**.
Write a program that:

- Reads the weight of the fish.
- Calculates and stores the excess weight (if any).
- Computes the fine amount João must pay.
- Prints the results with appropriate messages.

14. Salary Calculation with Deductions

Write a program that asks how much you earn per hour and the number of hours worked in the month. Then, calculate and display:

- **Gross salary**.
- **Social Security (8%)**.
- **Union tax (5%)**.
- **Income tax (11%)**.
- **Net salary** after deductions.

Formula:

```
+ Gross Salary : $
- Incoming Tax (11%) : $
- Social Security (8%) : $
- Union (5%) : $
= Net Salary : $
```

Note:
Net Salary = Gross Salary - Deductions.

15. Paint Shop - Buying Large Cans

Write a program for a paint shop. The program should ask for the **area (in square meters)** to be painted. Consider:

- 1 liter of paint covers **3 square meters**.
- Paint is sold in **18-liter cans**, costing **R$ 80.00** each.
- Display the **number of cans required** and **total price**.

16. Download Time Estimation

Write a program that asks for:

- The **file size** in MB.
- The **internet speed** in Mbps.

Calculate and display the **approximate download time** in **minutes**.