Exercise: Gravitational Force

Let's calculate the gravitational force between two masses!

We'll cover the following

Problem Statement

Gravitational force is the attractive force that exists between two masses. It can be calculated by using the following formula:

$$\frac{GMm}{r^2}$$

where G is the gravitational constant, M and m are the two masses, and r is the distance between them.

You must implement this equation in Python to calculate the gravitational force between Earth and the moon.

Sample Input

$G = 6.67 * 10^{-11}$

$M_{Earth} = 6.0 * 10^{24}$

$m_{Moon} = 7.34 * 10^{22}$

$r = 3.84 * 10^{8}$

Sample Output

$F_G = 1.99 * 10^{20}$

Coding Challenge

Coding Challenge

All the values have already been given to you. You must write the formula in Pythonic syntax and store the answer in the `grav_force` variable.

If you feel stuck, refer to the solution review in the next lesson.

Good luck!

```
G = 6.67 * (10 ** -11)
M = 6.0 * (10 ** 24)  # Mass of Earth
m = 7.34 * (10 ** 22)  # Mass of the moon
r = 3.84 * (10 ** 8)

# Write your code here
```