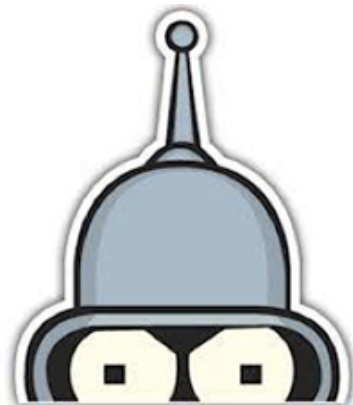# B2 - Stumpers

B-CPE-210

GPA Calculator

Solo Stumper

GPA Calculator

binary name: gpa_calculator
language: C
compilation: via Makefile, including re, clean and fclean rules

- The totality of your source files, except all useless files (binary, temp files, obj files,...), must be included in your delivery.

- Error messages have to be written on the error output, and the program should then exit with the 84 error code (0 if there is no error).

For this project, the **only** authorized functions are `write`, `atoi`, `strtok`, `printf`, `malloc` and `free`.

At Epitech and most universities, you can earn credits through modules, most of which are associated to a grade defining your level.
A general and unique number, the *Grade Point Average* (more commonly abbreviated as *GPA*) is a good indicator of your general level.

It is calculated as a weighted mean of all the credits and their grades, meaning that a B grade with 5 credits has a bigger impact on the GPA than a B grade with 1 credit.

The amount of points associated to each grade is the following:

- A = 4 points;
- B = 3 points;
- C = 2 points;
- D = 1 point;
- Fail = 0 points.

For example, if one has the following grades and credits:

- A with 3 credits;
- B with 2 credits;
- B with 9 credits;
- Fail with 5 credits.

Their GPA will be:
$$((4*3) + (3*2) + (3*9) + (0*5))/(3 + 2 + 9 + 5) = 2.37$$

Writes a program that takes one or more arguments, each of them being made of a grade, a comma, and a credit value, and displays on the standard output the resulting GPA, followed by a newline.

The arguments will always be valid and correctly formatted.

The *Fail* grade will be represented by the letter *E*.

The displayed number must be rounded to 2 decimal places, which themselves must always be displayed.

EXAMPLES

```
~/B-CPE-210> ./gpa_calculator "A,3" "B,2" "B,9" "E,5"
2.37
~/B-CPE-210> ./gpa_calculator "D,20" "B,1" "C,2" | cat -e
1.17$
~/B-CPE-210> ./gpa_calculator "A,6" "E,6"
2.00
~/B-CPE-210> ./gpa_calculator "D,1" "E,1000"
0.00
~/B-CPE-210> ./gpa_calculator ; echo $?
84
```