Architetture dei Sistemi di Elaborazione	Delivery date: 2nd December 2022
Laboratory 7	Expected delivery of lab_07.zip must include: - zipped project folder of the exercises 1 and 2 - this document compiled possibly in pdf format.

Slurm calories count!

Exercise 1)

We all know that Slurm is the best soda in the universe. But how many calories does a can of Slurm have? Professor Farnsworth analyzed the components and is trying to compute the exact amount.
Write a program in **ARM assembly** language to compute the total calories of a Slum can starting from the calories of the ingredient. Each ingredient has a different amount of calories per unit of mass. For example, you have the following lists:

```
Ingredient_calories     DCD 0x01, 30, 0x02, 70, 0x03, 200, 0x04, 42, 0x05, 81
                        DCD 0x06, 20

Ingredient_quantity     DCD 0x02, 50, 0x05, 3, 0x03, 10, 0x01, 5, 0x04
                        DCD 8, 0x06, 30

Num_ingredients         DCB 6
```

`Ingredient_calories` is a table where each entry consists of two integer values: the ID of the ingredient (4 bytes) and the calories of that ingredient for unit of mass (4 bytes).
`Ingredient_quantity` is a table where each entry consists of two integer values: the ID of the ingredient (4 bytes) and their quantity in units of mass in a can of soda (4 bytes).
`Ingredient_quantity` is a 1-byte constant and indicates the number of ingredients in the slum soda.
Compute the total calories of a soda can and store it in register R11.

Exercise 2)

Save in two separate vectors `Calories_ordered` and `Quantity_ordered`, the ID of the ingredients in descending order by calories and quantities, respectively.
The output will be, for example:

```
Calories_ordered        DCD   0x03,0x05,0x02,0x04,0x01,0x06
Quantity_ordered        DCD   0x02,0x06,0x03,0x04,0x01,0x05
```

Then, save in R11 the ID of the most caloric ingredient (the highest product between the calory and the quantity).