

# Project II

## Digital Systems and Microprocessors

### Degree in Biomedical Engineering

#### Objective

The general objective of this project is to demonstrate the use and skill using the Arduino System, and the management of input and output ports, timers, 7-segment display, data matrix, etc.

#### Description:

Connect the 7-segment display as in practice 2, and a push button on pin 22 of the microcontroller. For this project, two programs must be carried out. Each program is independent and should have two different names.

#### Exercise 1.

- Write the code for a counter from 0 to 9 which each time the push button is pressed the counter will increase by one unit. When the number is greater than 9 the counter is reset again
- Each time the push button is activated and the count increases by one unit, the number must be displayed through the 7-segment display and the serial monitor.

#### Exercise 2.

- Based on the previous exercise, write a code in which the serial monitor is used to send a number between 0 and 9. When the number is sent it should be displayed on the 7-segment display.
  
- The project has a maximum score of 10. 5% of the course grade
- The project must be developed by a single student
- For the delivery of the project, a document. ZIP must be done and it should contain:
  - ✓ Files .ino with each corresponding code.
  - ✓ A pdf document for each program and it must contain:
    - Justifications and conclusions of the written code.
    - Representative flowchart of the program.
- The name of the file will be surname\_name