ENGINE

Teaching online electronics, microcontrollers and programming in Higher Education

Output 2: Online Course for Microcontrollers: syllabus, open educational resources

Open project leaflet: Module_1-2 pins as inputs

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Declaration

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Executive summary

This file contains open projects.

Chapter 1: **Open project 1**

Design a circuit and write the appropriate code so that the Arduino Uno works as an up-counter that counts from 0 to 9 and display the numbers in a common cathode seven segment display. More specifically, the user increases the counter when press and release a push-button.

Tip1. *The built-in pull-up resistor could be used*

Tip2. *After the number 9, the counter returns to 0*

Chapter 2: **Open project 2**

Design a circuit and write the appropriate code so that the Arduino Uno works as an up/down counter. In more detail, count from 0 to 9 (or from 9 to 0) and display the numbers in a common cathode seven segment display.

The counts are made by pressing and releasing a push-button.

A switch adjusts whether the counter increases or decreases the number: as long as the Arduino Uno reads “1” from the switch, it works as an up-counter. On the contrary, when it reads “0” from the switch, it works as a down-counter .

***Tip**. The built-in pull-up resistors could be used*