**Project details:**

There are three modes of operation:

* + Mode updated by clicking on button 0 which connected to external interrupt PD2.
  + First press will switch to Mode A, second press will switch to Mode B and the 3rd press will switch to Mode C.

e.g: To select mode C, button should be pressed 2 times.

**Mode A:** Alarm system for an oven

A led and buzzer will change their values based on the value of ADC0 which connected to heat sensor in an oven

* if ADC0 > 100 buzzer duty = 20 led duty = 100
* if ADC0 > 300 buzzer duty = 40 led duty = 70
* if ADC0 > 600 buzzer duty = 60 led duty = 30
* if ADC0 > 900 buzzer duty = 80 led duty = 10

**Mode B:** Emergency lighting system

Use (LDR) its analog output is changed based on the brightness: if light is low the led should be on else it should be off (you can use ADC1 as LDR sensor)

**Mode C:** use the kit as a calculator in the second line of LCD, Number should be from 0 to 9, and the operation is + - \* /

e.g : 1+3=4

**Notes:**

* Current mode should be appeared in LCD of the kit at first line
* Use FreeRTOS to implement the application.
* Assume any variables not given