

# ENGINE

Teaching online electronics, microcontrollers and programming in Higher Education

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

Open project leaflet: Module\_2-8 Timers

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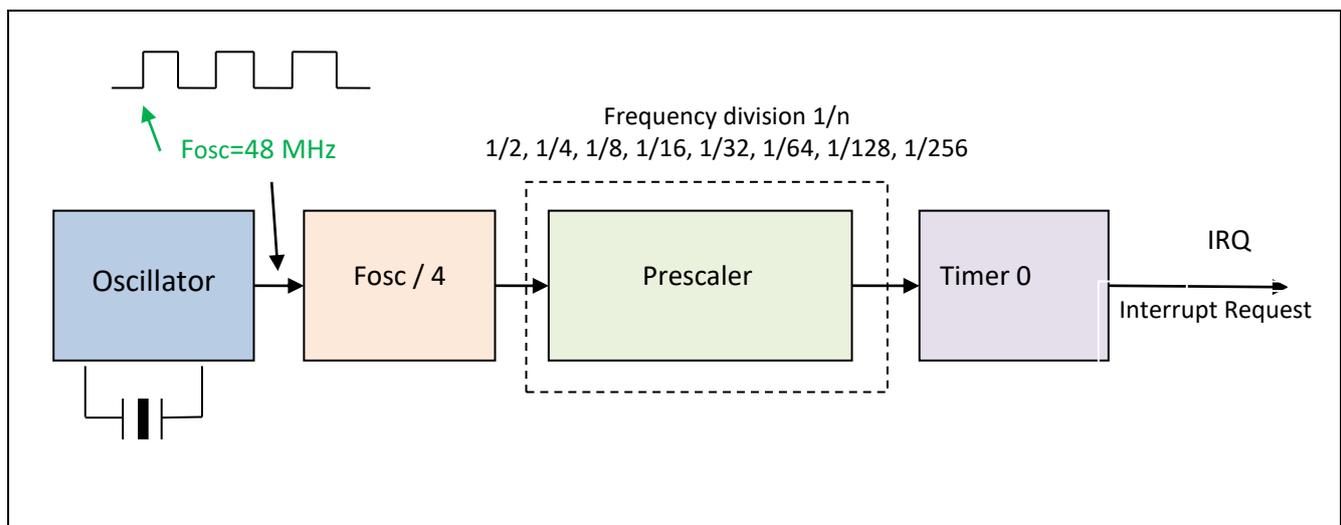
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# Executive summary

This file contains open project.

# Chapter 1: Open project 1

Calculate the Machine Cycle in the diagram below and the initial value that should be given to Timer0 so that interrupts are executed every 50ms. The frequency at the output of the oscillator is 48 MHz. Set the Prescaler value to 1/32.



Then write a program with an interrupt service routine from Timer0 that blinks the LEDs connected to PORTB as follows:

LED0 blinks every 100ms

LED1 blinks every 150ms

LED2 blinks every 200ms

LED3 blinks every 300ms

