List of exercises

11. Write a code (Exer11.s) which configure the timer C1 comparator such that after 2 seconds a IRQ is produced, and the corresponding handler routine turns on the YELLOW LEDs.
12. Write a code (Exer12.s) to flash one of the green LEDs by interrupt. The handler routine has to re-program the comparator to provoke a new interrupt. The led has to be turned ON-OFF depending on the previous ON-OFF state. The cadence is 0.20 seconds (0.20 seconds ON, 0.20 seconds OFF).
13. The same as previous exercise, but for the 6 LEDS at the same time
14. Write a code (Exer14.s) that flashes the LEDs in turns with a cadence of 0.25 seconds (each led will be ON for 0.25 s.). After reaching the last LED, it will start again from the first LED forever (infinite loop).
15. Write a code (Exer15.s) that turns on the two red LEDs. After pressing any button, an IQR is generated. The handler routine has to determine what is the pressed button and keep ON only the LED of the same side (this exercise is similar to exercise 2 but with interrupts)
16. In this exercise we work with the comparators C1 and C3 and the IRQ simultaneously. With C1 we control the ON state of the LEDs with a cadence similar to the exercise 14, but with a time of 2s instead of 0.25 s. With C3 we control the speaker to produce a continuous sound of 440Hz.
17. Similar to the previous exercise, but every LED will be associated to a different sound. In this case, each LED (and its associate tone) will be ON for 0.5 s.. To do that, apart from the regular IRQ, we are going to use a fast interrupt (FIQ) in such a way that we have two independent handler routines. C1, which controls the sequence of lighting of the LEDs, will interrupt with a IRQ, whereas C3, which controls the speaker, will work with a FIQ. The interrupt associated to C3 has the highest priority since it will take place more frequently. Next table shows the frequency of different notes:

Note	Frequency
Do	252 Hz
Re	293 Hz
Mi	330 Hz
Fa	349Hz
Fa#	370Hz
Sol	392 Hz
La	440 Hz
Si	494 Hz
Do’	523 Hz
Re’	587 Hz