

ECEN202 2019 Lab Session 7

Assembler, counter – timers and interrupts

During this lab session, the idea is to become acquainted with implementing interrupts. The task is again to write some code to implement a digital clock, but this time a timer interrupt is used instead of polling.

Create a project. From the menu, click **Project -> New uVision Project**. Name this project **Clock2**, and set the Project location to a folder where you want to store the project.

KEIL will then ask you to select your target Device.

- Device – Atmel – AT89C51AC3
- Click OK.

Next it will ask you if you want to copy a version of 8051 Startup code. Select **“No”**

Add **“clock7.a51”** to the group and double click the file to open it for editing.

Now open file **“Clock7lab.a51”** and copy the text into **“clock7.a51”**. Save **“clock7.a51”**, this code is to give you a head start in building your clock.

You will need to finish the setup code to enable the interrupt as well writing the Interrupt Service Routine (ISR).

Remember, before compiling your project, you must configure the flash tools. Look at the last lab for details.

Once you have made the necessary changes you can compile and download your program.

Press the RESET button to run the program. **You must press reset after each new upload to run your program.** Verify that your clock is working.