

Liam Spinner

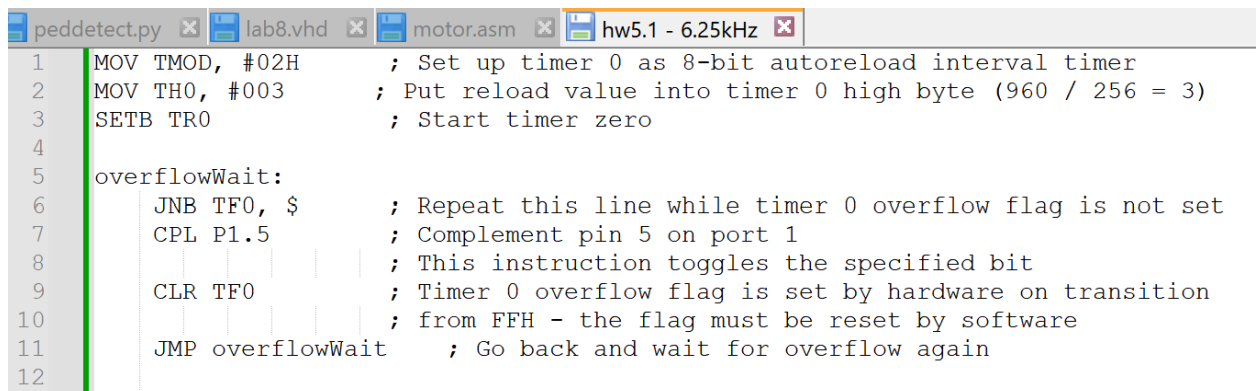
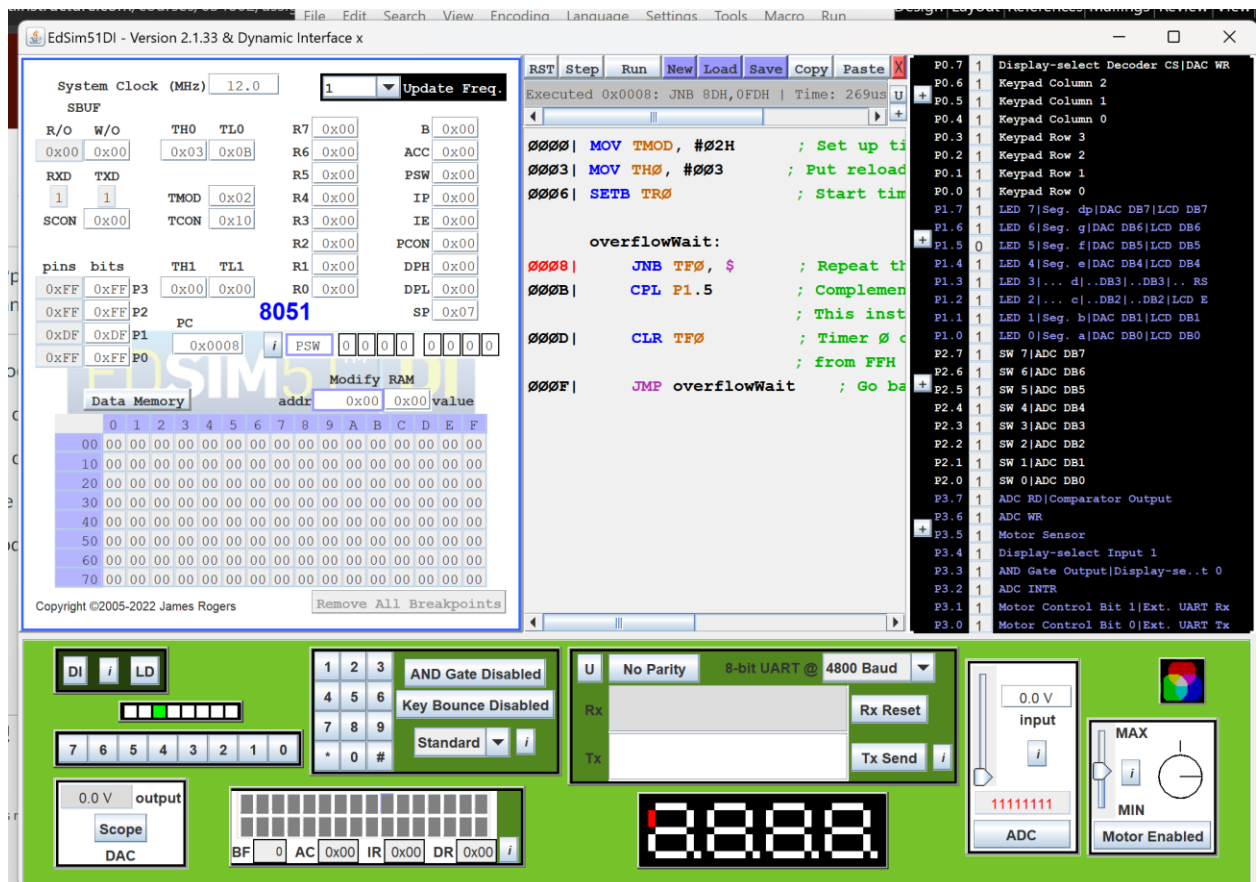
CSE2120

Dr. Caraway

12 Apr 2024

Homework 5.1

1. Write the assembly code to generate a 6.25kHz pulse train.



2. Write the assembly code to generate a 10kHz pulse train.

The screenshot displays the EdSim51DI software interface, which is used for simulating 8051 microcontroller programs. The main window is divided into several sections:

- System Configuration:** Shows the system clock set to 12.0 MHz and the update frequency set to 1. The 8051 microcontroller registers are visible, including R0-R7, ACC, PSW, IP, IE, PCON, DPH, DPL, and SP.
- Assembly Code Editor:** Contains the following code:


```

      0000| MOV TMOD, #02H      ; Set up timer 0 as 8-bit autoreload interval timer
      0003| MOV TH0, #002      ; Put reload value into timer 0 high byte (600 / 256 = 2)
      0006| SETB TR0           ; Start timer zero

      overflowWait:
      0008| JNB TF0, $          ; Repeat this line while timer 0 overflow flag is not set
      000B| CPL P1.5           ; Complement pin 5 on port 1
      000D| CLR TF0            ; This instruction toggles the specified bit
      000D|                    ; Timer 0 overflow flag is set by hardware on transition
      000F| JMP overflowWait   ; from FFH - the flag must be reset by software
      000F|                    ; Go back and wait for overflow again
      
```
- IO and Peripherals:** Includes a keypad, a display (showing '8888'), an ADC (showing '11111111'), and a motor control section with a 'Motor Enabled' checkbox.
- Assembly Code Window:** Shows the full assembly code for the program, including comments and line numbers.