Liam Spinner

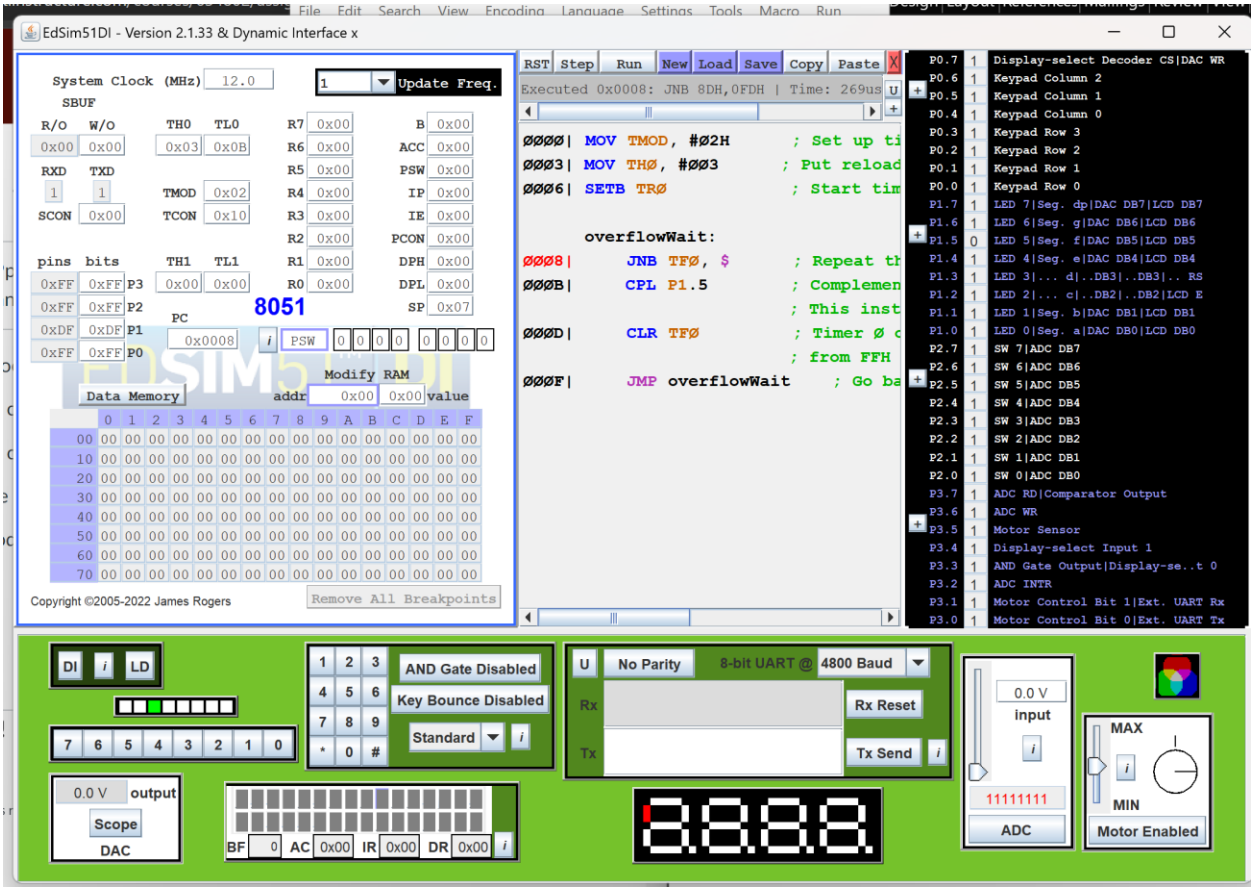
CSE2120

Dr. Caraway

12 Apr 2024

Homework 5.1

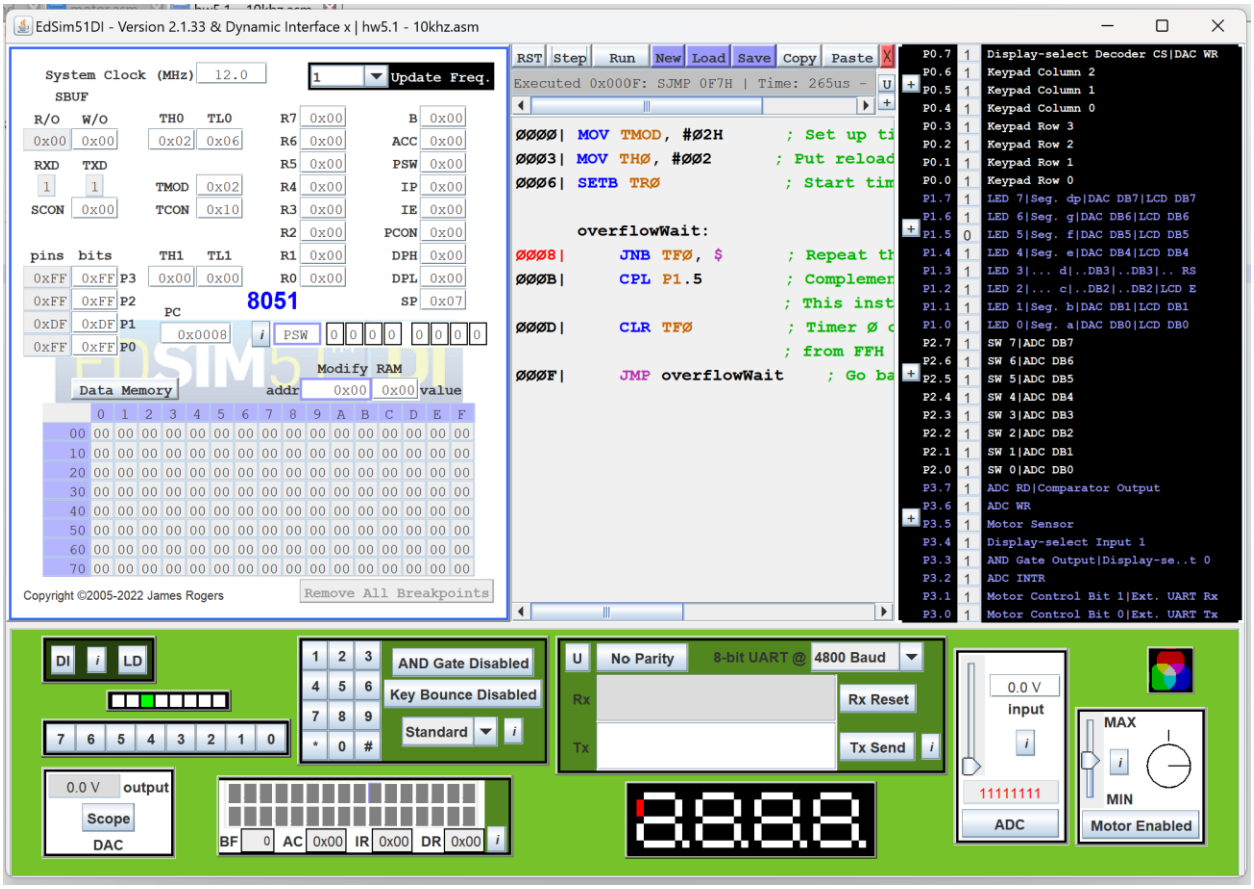
1. Write the assembly code to generate a 6.25kHz pulse train.



peddetect.py | lab8.vhd | motor.asm | hw5.1 - 6.25kHz

```
1  MOV TMOD, #02H       ; Set up timer 0 as 8-bit autoreload interval timer
2  MOV TH0, #003       ; Put reload value into timer 0 high byte (960 / 256 = 3)
3  SETB TR0             ; Start timer zero
4
5  overflowWait:
6      JNB TF0, $       ; Repeat this line while timer 0 overflow flag is not set
7      CPL P1.5         ; Complement pin 5 on port 1
8                       ; This instruction toggles the specified bit
9      CLR TF0          ; Timer 0 overflow flag is set by hardware on transition
10                      ; from FFH - the flag must be reset by software
11     JMP overflowWait     ; Go back and wait for overflow again
12
```

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




```
1    MOV TMOD, #02H       ; Set up timer 0 as 8-bit autoreload interval timer
2    MOV TH0, #002        ; Put reload value into timer 0 high byte (600 / 256 = 2)
3    SETB TR0             ; Start timer zero
4
5    overflowWait:
6        JNB TF0, $       ; Repeat this line while timer 0 overflow flag is not set
7        CPL P1.5         ; Complement pin 5 on port 1
8                         ; This instruction toggles the specified bit
9        CLR TF0          ; Timer 0 overflow flag is set by hardware on transition
10                        ; from FFH - the flag must be reset by software
11       JMP overflowWait     ; Go back and wait for overflow again
12
```