

CSE 334 Exercise 2

Simple Music Player

Due Date May, 3, Wednesday 17:00

You will play songs on PTT5 Buzzer in this homework.

You will write your program with C on CodeWarrior.

Your program will

- ✓ Control PTH and get the value from PTH.
- ✓ Play 3 different songs for 15 seconds according to what is selected at the two least significant DIP switches (00, 01, 10, 11).
- ✓ Light PORTB LEDs according to the music. (It is up to you but at least you can get use of the frequencies, i.e. notes.)
- ✓ Show the number of the song on 7-segment LEDs.
- ✓ If 00 is selected, play all three songs and each for 5 seconds.
- ✓ 10s and 5s delay will be implemented by using **Timer Overflow Property of Timer Module**.
- ✓ The different frequencies will be generated using **Output Compare Property of Timer Module**.

BONUS:

1. Alternatively communicating with the PC (instead of DIP Switches) using **Serial Communication Module** will bring you 15pts additionally.
2. Using interrupts for Output Compare and Timer Overflow will bring you 15pts additionally.

The list of notes vs frequencies can be found below. You can find different tables searching Internet for note and frequency keywords:

<http://www.phy.mtu.edu/~suits/notefreqs.html>

Rules:

1. No cheating, no help, no Internet.
2. Programs should execute and could be run on Dragon12, otherwise 0.
3. Follow the rules explained by the TA.
4. No late submissions. (submit to Moodle)
5. Submit all your project as zip file.