

ECE 476/676 - Homework #3

Binary Outputs, Binary Inputs, Serial I/O - Due Monday, February 3rd

Morse Code (take 1)

<https://morsecode.world/international/morse.html>

1) Write a Python program which

- Turns on the beeper (GP13) when button GP15 is pressed
- Turns off the beeper (GP13) when button GP15 is released.

2) Using this program, output NDSU in Morse code (manually setting the dits and dahs)

- N: dah - di
- D: dah - di - di
- S: di - di - di
- U: di - di - dah

A	dit-dah	N	dah-di	0	dah-dah-dah-dah-dah
B	dah-di-di-di	O	dah-dah-dah	1	di-dah-dah-dah-dah
C	dah-di-dah-di	P	di-dah-dah-di	2	di-di-dah-dah-dah
D	dah-di-di	Q	dah-dah-di-dah	3	di-di-di-dah-dah
E	di	R	di-dah-di	4	di-di-di-di-dah
F	di-di-dah-di	S	di-di-di	5	di-di-di-di-di
G	dah-dah-di	T	dah	6	dah-di-di-di-di
H	di-di-di-di	U	di-di-dah	7	dah-dah-di-di-di
I	di-di	V	di-di-di-dah	8	dah-dah-dah-di-di
J	di-dah-dah-dah	W	di-dah-dah	9	dah-dah-dah-dah-di
K	dah-di-dah	X	dah-di-di-dah		
L	di-dah-di-di	Y	dah-di-dah-dah		
M	dah-dah	Z	dah-dah-di-di		

Morse Code (take 2 - iambic paddle)

3) Write a Python program which

- Plays a dit on the beeper when button GP15 is pressed, and
- Plays a dah on the beeper when button GP14 is pressed.

The timing should be

- dit: on for 200ms, off for 200ms, return
- dah: on for 600ms, off for 200ms, return
- space between letters: 600ms

4) Using this program, output NDSU in Morse code by pressing buttons GP14 and GP15 accordingly

Morse Code (take 3)

5) Write a Python program which

- Prompts you for a text string of up to 20 characters, and then
- Outputs this message in Morse code.
- Spaces between letters are a 600ms silence;

6) Demo your Morse Code program