

Morse Code Tone Generator on Pt-51

1. [20 points] In this project, you will be writing a program to generate Morse code audio tones for a series of characters typed on a keyboard connected to the Pt-51 board via UART.
 - When the program starts, the LCD displays the message **Input please**.
 - The user types a character on the keyboard which is one of the 26 letters or the 10 numerals.
 - If the user types a character other than these 36 characters, the LCD should display **Invalid input** for 2 seconds and go back to displaying **Input please**.
 - For a valid character input, the board should output the series of audio tones corresponding to the Morse code equivalent of the character.
 - Use the International Morse Code as described at https://en.wikipedia.org/wiki/Morse_code.
 - Use a tone of 1 second duration for a **dot** and a tone of 2 seconds duration for a **dash**.
 - Use a 1 second silence between tones.
 - The LCD should be blank during the output of the Morse code for a character.
 - For example, if the character typed is A, then the Morse code equivalent is **dot dash**. This will be output as a audio tone of 1 second duration, 1 second silence, and finally an audio tone of 2 seconds duration.
 - Any characters typed during the output of the current character will be ignored. This is indicated by the blank LCD screen.
 - Once the output of the Morse code for a character is complete, the LCD display again has the text **Input please**.