User guide

Assignment 1: Pitch detection

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* Step 1: Power the DSP StarterKit1
  + If all 3 LEDs cycle the program is ready to run ->continue with Step 8.
  + If the LEDs stay dark the program is not loaded on the chip ->continue with Step 2
* Step 2: Open the Development environment for the DSP StarterKit1 (MPLAB IDE)
* Step 3: Open the project file “Audio\_Pitch\_Detection.mcp” using the IDE
* Step 4: Connect the DSP StarterKit to the computer
* Step 5: Compile the program in realease mode (STRG+F5)
* Step 6: Select Programmer->Select Programmer->Starter Kits
* Step 7: Select Programmer->Program
* Step 8: Set the jumper located on the Starter kit between the input and the output port to
  + LINE IN if the source of the signal is a phone or a signal generator
  + MIC if the source is a microphone
* Step 9: The program starts of in “READY” (Cycling LEDs). Press S1 to start the pitch detector (Cycling stops)
* Step 10: In put the signal (i.e. using a frequency/signal generator on a phone).
* Step 11: Depending on your signal the following visual results can be observed (no flashing and constant LED selection):
  + \*NOTE\*: any frequency lower than 10 Hz or higher then 4kHz will be displayed as a HIGH pitch (RED LED)
  + GREEN LED: Indicating a low pitch [10-800Hz]
  + GREEN + YELLOW LED: Indicating a pitch between low and medium [801-1600Hz]
  + YELLOW LED: Indicating a medium pitch [1601-2400Hz]
  + YELLOW + RED LED: Indicating a pitch between medium and high [2401-3200Hz]
  + RED LED: Indicating a high pitch [3201-4000Hz]
  + Flashing LEDs: If an error within the code occurs, the program will jump into ERROR STATE (indicated by all 3 LEDs flashing at the same time). This state can be reset to READY by pressing both switches at the same time. The program will then jump back to READY and cycle the LEDs as before.