

DTMF Synthesis: This lab is a simplified version of a DTMF system (code-decode pair) and taken from the DSP First's laboratory project C.7.2

Problem 1:

Write a function **dtmfdial**, to implement a DTMF dialer defined in the reading material. The input to the function is a vector of numbers that may range between 1 and 12, with 1 to 10 corresponding to the digits (10 corresponds to 0), 11 being the * key, and 12 being the # key. The output should be a vector containing the DTMF tones, sampled at 8 kHz. The duration of the tones should be about 0.5 sec, and a silence of about 0.1 sec long should separate each tone pair.

Problem 2:

Write a function **dtmfdecode**, to implement a DTMF decoder. The input to the function is a vector containing the DTMF tones. The output should be a vector of numbers that may range between 1 and 12, with 1 to 10 corresponding to the digits (10 corresponds to 0), 11 being the * key, and 12 being the # key.

To check if your functions work correctly or not, try code and decode the number 2568246316.