Lab 4: Encoding and Decoding touch tone signals
Instructor Verification

Name: _____________________________________________
Date of Lab: __________________

2.1 VAB DTMF Air Modem Implementation

Arrange two systems to form the DTMF air modem pair. Transmit a sufficient number of digits to evaluate the system and determine an approximate error rate for the system.

TA verification ____________________________

2.2 MATLAB DTMF Implementation

2.2.2 Bandpass Filter Design

Devise a MATLAB strategy for picking the constant $\beta$ so that the maximum value of the frequency response will be equal to one. Write the one or two lines of MATLAB code that will do this scaling operation in general. You can do a mathematical approach or a numerical approach using MATLAB.

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2.2.3 A scoring Function

Complete the `dtmfscore` function based on the skeleton given in Fig. 5. The input signal $xx$ to the `dtmfscore` function must be a short segment from the DTMF signal. The task of breaking up the signal so that each short segment corresponds to one key is done by the function `dtmfcut` prior to calling `dtmfscore`.

TA verification ____________________________