DSP HW3 Report

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My environment : NTU CSIE workstation

Compiler: gcc version 7.2.0 (GCC)

Enviroment: Linux version 4.13.3-1-ARCH

How to Compile and Execute:

On the terminal, type:

1. make : compile mydisambig.cpp into an executable file
2. make run : execute mydisambig
3. make map : transfer Big5-ZhuYin.map to ZhuYin-Big5.map using mapping.py

What I have done:

First, I research File.cc(.h), Ngram.cc(.h) and Vocab.cc(.h). I find that File.cc(.h) are mainly related to I/O, Ngram.cc(.h) are mainly related to language models, and Vocab.cc(.h) are mainly to vocabulary data structures. Thanks to Ngram.cc(.h) and Vocab.cc(.h), I can implement the Viterbi algorithm easily.

In the mydisambig.cpp, map ZhuYin to Big5 using ‘map’ data structure in STL in C++, so the relation can be implemented easily. Moreover, I implement the Viterbi algorithm into a dynamic programming table by 2D vector array. In the table, record the last observation with maximum probability, and implement ‘backtracking’ to find most possible Big5 by that.

The conclusion is that this homework is hard to me because it takes me too much time to research the SRILM code, search some useful information , type the idea as the code and debug.