DSP Homework 1 report

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Environment

I have used both these two operating system to write my homework.

1.   MacOS Yosemite

- Compile: Apple LLVM version 6.1.0

- Environment: Darwin Kernel Version 14.5.0

2. CSIE WorkStation

- Compile: gcc version 6.2.1

- Environment: Linux oasis2 4.6.4-1-ARCH

How to execute

type `make` to generate **train** and **test**

Discovery

I have trained these five models by different iterations and list representative as follows:

iterations	accuracy
1	0.766
10	0.5408
40	0.8212
924	0.8704
1000	0.8696

It's very interesting to see that there's a pitfall in the middle-front, which means that more iterations not necessarily corresponds to more accuracy. The iteration-to-accuracy graph is like the one on course website.

And there's one more interesting thing. Accuracy tested by the forward algorithm is higher than the Viterbi algorithm. It support the the assumption in the handout, but the path generated by forward algorithm is not necessarily truly connected.