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### **Environment:**

CSIE workstation

### **Compile:**

```
$ make          # compile mydisambig
$ make map      # generate ZhuYin-Big5.map
```

### **Execute:**

Usage:

```
$ ./mydisambig -text [text file] -map [map file] -lm [lm file] -order [order]
```

To test all testdata:

```
$ make run
```

### **What I have done:**

1. Use python3 to generate ZhuYin-Big5.map from Big5-ZhuYin.map
2. Successfully build SRILM and use its disambig to decode sequences.
3. Complete mydisambig.cpp by the instructions on TA's slide, which implements the viterbi algorithm to reconstruct the sentences.
4. My program supports bigram models only.
5. The output of mydisambig and SRILM's disambig are the same except the following case:

**Input:**      高 ㄋ (from testdata/5.txt line32 & 46)

**Output of disambig:**    高 技

**Output of mydisambig:** 高 階

The reason is that in the bigram model,  $P(\text{技} | \text{高}) = P(\text{階} | \text{高})$

However, neither of them is the correct answer.

The correct answer should be:

他們演出的周末狂熱始著高居產銷電影配樂排行榜榜上 (line 32 of 5.txt)

這張唱片長期高居產銷排行榜榜上 (line 46 from 5.txt)

So I think this doesn't affect my program's performance.