1. **Environment**

   MAC OS X Yosemite 10.10.5

2. **Compilation**

```
$ make mydisambig
```

3. **Execution**

   a. Generate ZhuYin-Big5.map

```
$ make map
```

   or

```
$ python3 mapping.py Big5-ZhuYin.map ZhuYin-Big5.map
```

   b. Run disambig program

```
$ make run
```

   or

```
$ ./mydisambig -text testdata/1.txt -map ZhuYin-Big5.map -lm bigram.lm -
  order 2 > result2/1.txt
```

4. **Clean files**

```
$ make clean
```

5. **What I do in the code:**

   a. mapping.py

   Convert the mapping from Big5-characters-to-ZhuYin into ZhuYin-to-Big5-characters by using dict() API. Besides, the encoding of opening a Big-5 file need to be “big5-hkscs”.

   b. mydisambig

   First, Use Viterbi algorithm to find the best sequence of the words to construct the sentence. Next, Use map API to construct ZhuYin-to-Big5 mapping, and use multi-vector data structures to hold the data required by Viterbi, because it can use less spaces like sparse array than full squared array. At last, print out result into file with <s> and </s> tag at the head and tail of the sentences respectively.