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File: Readme
Description: This file contains some sample output from the hw2.java
that works as a zip code guessing machine based on predictive probability

Some sample output:
1. Using Y to enter my own guess rather than the suggesting guess

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raymondqiu@Raymond-Qius-MacBook-Pro:~/Desktop/CSE 150/hw2$ java hw2
Total Population: 308739931
The five most populated zip codes are:
zip code: 60629 with population 113916
zip code: 79936 with population 111086
zip code: 11368 with population 109931
zip code: 90650 with population 105549
zip code: 90011 with population 103892
Which mode do you want?
Y for enter you own or X for suggested guess
Y
0: 0.5707657134897786
1: 0.46760694845138123
2: 0.4396177344484799
3: 0.43416032570143964
4: 0.3987752462119971
5: 0.3728835678207106
6: 0.34680892961655807
7: 0.3763561571826613
8: 0.33722947227062766
9: 0.34702290906452266

The next guess is : 0
with probability: 0.5707657134897786
Zip code: -1 -1 -1 -1 -1
Enter you guessed digit and its position:
(For example, 0 1 to indicate it's 0 at the first position)
(Or, 2 -1 to indicate a wrong guess)
0 1 3 5
0 -1 0 -1 0
0: 0.0
1: 0.28359908087386915
2: 0.1264833355943202
3: 0.1643182704988763
4: 0.1645686106958199
5: 0.12316178270191197
6: 0.32647438488336805
7: 0.40609095880295426
8: 0.22475934475201637
9: 0.08972108745543876


The next guess is : 7
with probability: 0.40609095880295426
Zip code: 0 -1 0 -1 0
Enter you guessed digit and its position:
(For example, 0 1 to indicate it's 0 at the first position)
(Or, 2 -1 to indicate a wrong guess)
7 4
0 -1 0 7 0
0: 0.0
1: 0.01821604401969302
2: 0.0
3: 0.15215754416449465
4: 0.0
5: 0.014016796988126268
6: 0.43741673906747763
7: 0.0
8: 0.37819287576020855
9: 0.0


The next guess is : 6
with probability: 0.43741673906747763
```

```
Zip code: 0 -1 0 7 0
Enter you guessed digit and its position:
(For example, 0 1 to indicate it's 0 at the first position)
(Or, 2 -1 to indicate a wrong guess)
6 2
0 6 0 7 0
The zip code is:
06070


2. Using X command to use suggesting guess to guess user's zip code
raymondqiu@Raymond-Qius-MacBook-Pro:~/Desktop/CSE 150/hw2$ java hw2
Total Population: 308739931
The five most populated zip codes are:
zip code: 60629 with population 113916
zip code: 79936 with population 111086
zip code: 11368 with population 109931
zip code: 90650 with population 105549
zip code: 90011 with population 103892
Which mode do you want?
Y for enter you own or X for suggested guess
X
0.5707657134897786
0.46760694845138123
0.4396177344484799
0.43416032570143964
0.3987752462119971
0.3728835678207106
0.34680892961655807
0.3763561571826613
0.33722947227062766
0.34702290906452266
Where is digit 0? (Enter position range from 1 - 5, separated by space) or -1 to ind
icate none): 1 3 5
0-10-10
0: 0.0
1: 0.28359908087386915
2: 0.1264833355943202
3: 0.1643182704988763
4: 0.1645686106958199
5: 0.12316178270191197
6: 0.32647438488336805
7: 0.40609095880295426
8: 0.22475934475201637
9: 0.08972108745543876
Where is digit 7? (Enter position range from 1 - 5, separated by space) or -1 to ind
icate none): 4
0-1070
0: 0.0
1: 0.01821604401969302
2: 0.0
3: 0.15215754416449465
4: 0.0
5: 0.014016796988126268
6: 0.43741673906747763
7: 0.0
8: 0.37819287576020855
9: 0.0
Where is digit 6? (Enter position range from 1 - 5, separated by space) or -1 to ind
icate none): 2
06070
the zip code is:
06070


Question (a):
The five most populated zip codes are:
zip code: 60629 with population 113916
zip code: 79936 with population 111086
zip code: 11368 with population 109931
zip code: 90650 with population 105549
zip code: 90011 with population 103892
```

Question (b):
(i):
0: 0.5707657134897786
1: 0.46760694845138123
2: 0.4396177344484799
3: 0.43416032570143964
4: 0.3987752462119971
5: 0.3728835678207106
6: 0.34680892961655807
7: 0.3763561571826613
8: 0.33722947227062766
9: 0.34702290906452266

The next guess is : 0
with probability: 0.5707657134897786
Zip code: -1 -1 -1 -1 -1

(ii):

0: 0.0
1: 0.5718408127690436
2: 0.5642410731476435
3: 0.0
4: 0.5167111057441929
5: 0.48409757704840006
6: 0.4069155074310836
7: 0.45902960993431463
8: 0.41608866892002516
9: 0.45125308291427196

The next guess is : 1
with probability: 0.5718408127690436
Zip code: -1 -1 -1 -1 -1

(iii):
0: 0.5798518053805237
1: 0.32307387045628133
2: 0.394954620136638
3: 0.3124019745422726
4: 0.28600228565558516
5: 0.0
6: 0.21173529442337946
7: 0.24708438275987102
8: 0.2611612206550379
9: 0.0

The next guess is : 0
with probability: 0.5798518053805237
Zip code: 9 -1 -1 -1 5

(iv):
0: 0.39936096151007366
1: 0.08998442879387439
2: 0.0
3: 0.0
4: 0.5989533482855007
5: 0.2054851597358133
6: 0.1736141864640029
7: 0.0
8: 0.2171873735137117
9: 0.0

The next guess is : 4
with probability: 0.5989533482855007
Zip code: 7 7 -1 -1 9

(v):
0: 0.0
1: 0.6923649371197008

```
2: 0.0
3: 0.0
4: 0.0
5: 0.0
6: 0.0
7: 0.0
8: 0.0
9: 0.409225362241803


The next guess is : 1
with probability: 0.6923649371197008
Zip code: -1 -1 2 0 8
```