CSE 484 HW01 REPORT

SPRING

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The program actually prints everything that requested in homework (in debug mode). The sample output:

```
D:\Programs\Java\jdk1.8.0_101\bin\java ...
> Loading model file.
> Model reading done.
> For n=1, there are 0 ngrams that seen first time.
> For n=2, there are 18 ngrams that seen first time.
> For n=3, there are 297 ngrams that seen first time.
> For n=4, there are 1726 ngrams that seen first time.
> For n=5, there are 5502 ngrams that seen first time.

> Calculating perplexities.
> Job done. Creating report.


Perplexity Results
Perplexity for Chain Rule n=1> 1.1648188716901742
Perplexity for Chain Rule n=2> 1.2361331261641442
Perplexity for Chain Rule n=3> 1.2722887157037248
Perplexity for Chain Rule n=4> 1.261086365354895
Perplexity for Chain Rule n=5> 1.221071111047873

Perplexity for Interpolation with l1..l5 = [0.1, 0.2, 0.2, 0.2, 0.3] > 1.3842300584192164


Process finished with exit code 0
```

Another run with re-learning:

```
D:\Programs\Java\jdk1.8.0_101\bin\java ...
> Model file couldn't found. Training again.
> Splitting data.
> Splitting complete. Training length: 1925493, Test length: 99161
> Computing ngrams with training set.
> Ngram computing done. Number of all ngrams: 9627455
> For n=1, there are 0 ngrams that seen first time.
> For n=2, there are 8 ngrams that seen first time.
> For n=3, there are 225 ngrams that seen first time.
> For n=4, there are 1385 ngrams that seen first time.
> For n=5, there are 4847 ngrams that seen first time.

> Calculating perplexities.
> Job done. Creating report.


Perplexity Results
Perplexity for Chain Rule n=1> 1.164987383081385
Perplexity for Chain Rule n=2> 1.2363367291403613
Perplexity for Chain Rule n=3> 1.272064198629108
Perplexity for Chain Rule n=4> 1.2598981792893815
Perplexity for Chain Rule n=5> 1.221507589395988

Perplexity for Interpolation with l1..l5 = [0.1, 0.2, 0.2, 0.2, 0.3] > 1.384975741284101


Process finished with exit code 0
```

If you run the program in normal mode, the interactive probability calculating screen comes like this:

```
D:\Programs\Java\jdk1.8.0_101\bin\java ...
> Loading model file.
> Model reading done.

Use interpolation: n
N-gram: 4
Enter sentence: Hava çok güzel
The probability of the sentence is: 4.4295550204261437E-8

Continue? > y

Use interpolation: y
Enter sentence: Hava çok güzel
The probability of the sentence is: 1.7740908270928475E-6

Continue? > n

Process finished with exit code 0
```