Project 4 report

Description:

My code is an implementation of Viterbi algorithm. The output sequence of states will best explain the sequence of rolls.

How to execute:

The zip file contains one .java files, Algorithm.java. Before execution, the input file should be put in the same directory together with the .java file.

Assuming the input file name is i.txt, the following is the command needed to be executed in terminal:

```
javac Algorithm.java
java Algorithm i.txt
```

Then the output should be like this:

```
My dear Terminal! ~/Documents/6511project4 $ javac Algorithm.java
My dear Terminal! ~/Documents/6511project4 $ java Algorithm i.txt
States: {dice1, dice2, dice3}

                0.5       0.25      0.25
Transition A = 0.25       0.5       0.25
                0.25      0.25      0.5

                0.8       0.1       0.1
Emision     B = 0.1       0.8       0.1
                0.1       0.1       0.8

Belief: 1,2,2,2,3,3,3,2,2,3,3,2,3,2,3,2,3,3,3,3,2,2,1,1,2,3,2,2,1,3,2,1,2,2,3,2,2,3,
3,3,1,1,2,2,1,1,1,1,3,1,3,2,1,1,1,2,2,1,3,2,3,3,1,2,2,2,3,2,2,1,3,3,2,3,1,3,2,3,2,2,
1,3,3,2,1,3,3,2,2,1,2,3,3,1,1,1,3,2,1,1

Probability: 2.32299E-59

(Similarity: 75%)
```

```
My dear Terminal! ~/Documents/6511project4 $ javac Algorithm.java
My dear Terminal! ~/Documents/6511project4 $ java Algorithm i.txt
States: {dice1, dice2, dice3}

                0.99      0.005     0.005
Transition A = 0.005      0.99      0.005
                0.005     0.005     0.99

                0.6       0.2       0.2
Emision     B = 0.2       0.6       0.2
                0.2       0.2       0.6

Belief: 3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,
3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,
2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2

Probability: 3.01034E-44

(Similarity: 90%)
```