

**Name: Dannasri Srinivasan**

**ID: 1001698730**

**Programming Language used: Java 8 Software Required: JDK 11, JRE 11**

#### Commands to execute:

Note: Go to the code folder <optionalAssignment2\_code\_dxs8730/ PosteriorProbability> on to the terminal.  
The folder should contain compute\_a\_posteriori.java file.

Compile command: `javac compute_a_posteriori.java`

After compiling, it should generate class file such as compute\_a\_posteriori.class (main class).

Execute command: `java compute_a_posteriori <input>`

Execute command Example: `java compute_a_posteriori`

Note: this will generate result.txt in the folder <optionalAssignment2\_code\_dxs8730/ PosteriorProbability>

#### The Code is Structured as follows:

The code contains initial probability  $p(h_1)$ ,  $p(h_2)$ ,  $p(h_3)$ ,  $p(h_4)$ ,  $p(h_5)$  and the probability values for lime and cherry candies in all 5 bags.

$P(h_i)$  is calculated and overridden in a loop based on the formula  $P_t(h_i) = P(Q_t | h_i) * P_{t-1}(h_i) / P_{t-1}(Q_t)$

#### Sample Execution:

```
PosteriorProbability — -zsh — 80x24
Last login: Wed Dec  8 18:12:07 on ttys000
[dannasri@Dannasris-MacBook-Pro ~ % cd Desktop
[dannasri@Dannasris-MacBook-Pro Desktop % cd Fall\'21
[dannasri@Dannasris-MacBook-Pro Fall\'21 % cd AI
[dannasri@Dannasris-MacBook-Pro AI % cd AIOptionalAss2
[dannasri@Dannasris-MacBook-Pro AIOptionalAss2 % cd PosteriorProbability
[dannasri@Dannasris-MacBook-Pro PosteriorProbability % javac compute_a_posteriori
.java
[dannasri@Dannasris-MacBook-Pro PosteriorProbability % java compute_a_posteriori ]
LCCCCCCCCCCCCLLLLLLLLLLLLLLLLLLLLLLLLLLLL
dannasri@Dannasris-MacBook-Pro PosteriorProbability % █
```