Janahan Ravichandran
100701645
October 20, 2021

SOFE 4790 Distributed Systems (Fall 2021) – Assignment 1 Report

GitHub Repository link: https://github.com/Janahan10/SOFE4790-Distributed-Assignments

For my application I chose to offer a service in the form of a mathematical equation solver for quadratic functions. To begin with the user is initially greeted by the application and prompts for three values delimited by a comma. These three values represent the coefficients in the quadratic equation in the form of $ax^2 + bx + c$. The system then parses the user input and uses the newly parsed input to then solve the roots of the equation. This done in a separate server-side function which first checks if roots exist by using the equation of the determinant to check. After, depending on the value of the determinant the function calculates and returns between 0-2 roots. For the novel feature of this application, I chose to implement a system to calculate the time taken for the current request and compare the time taken to the previous request.

Screenshot #1: Test for 0 roots

```
C:\Users\janah\University\Fourth Year\Distributed Systems\Assignments\Assignment 1\src\client>java Clien
t.java
Connected to Server
Server: Hello! Welcome to Quadratic Equation Solver!Please enter a, b, and c, coefficients separated by
a comma(',')
4,0,0
Client: 4,0,0
Server: Since determinant is 0, there is only 1 root. The root is 0.0.If you want to try another problem
 you can enter another set of coefficientsOr say 'bye' to terminate the session.
```

Screenshot #2: Test for 1 root

```
C:\Users\janah\University\Fourth Year\Distributed Systems\Assignments\Assignment 1\src\client>java Clien
t.java
Connected to Server
Server: Hello! Welcome to Quadratic Equation Solver!Please enter a, b, and c, coefficients separated by
a comma(',')
1,0,0
Client: 1,0,0
Server: Since determinant is 0, there is only 1 root. The root is 0.0.If you want to try another problem
 you can enter another set of coefficientsOr say 'bye' to terminate the session.
```

Screenshot #3: Test for 2 roots

```
C:\Users\janah\University\Fourth Year\Distributed Systems\Assignments\Assignment 1\src\client>java Clien
t.java
Connected to Server
Server: Hello! Welcome to Quadratic Equation Solver!Please enter a, b, and c, coefficients separated by
a comma(',')
1,20,1
Client: 1,20,1
Server: There are 2 roots. There 2 roots are -0.1 and -39.9.If you want to try another problem you can e
nter another set of coefficientsOr say 'bye' to terminate the session.
```