**FunctionPlotter User Manual**

A Java-based program meant to calculate the points for a user generated quadratic function.

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**Software Description**

A Java-based program meant to calculate the points for a user generated quadratic function.

**Detailed Description**

The FunctionPlotter program allows the user to generate a csv file with plot point s of a generated quadratic function. The program will initially ask the user for the name that they wish the file to be called. From then the u ser will define up to how many trials (or X) they want plotted. Then the values for the a, b, and c value s in the quadratic function.

**System Requirements**

* A working device, primarily a desktop or laptop
* An IDE (ex: VSCode, Eclipse, etc…)
* Java JDK (Ver. 17 & up) & JRE (SE 17 & up)

**Installation Guide**

To begin using FunctionPlotter you will need to download two files. One is “QuadraticPlotter.java” and the other is “TestQuadraticPlotter.java” (optional).

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After downloading the files, simply move the files to the folder containing your project. Once done, you can open your preferred IDE (for this example we will be using VSCode). Then you can open the folder or the file itself within your IDE.

A screenshot of a computer

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If you opened the folder containing the files then it should look similar to the image below.

A screenshot of a computer

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If you only imported the QuadraticPlotter file then you can simply start using the class within your own personal project. Otherwise, if you also imported the TestQuadraticPlotter, then you can open that file and run it.

The result will be displayed on the console and the file will be generated in the folder that contains the program files.

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A screenshot of a computer menu

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**A graph on a screen

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**Class Overview**

**quadraticFunction Function**

The function simply calculates the quadratic function value (Y). The function requires three parameters: x (double), a (double), b(double), c(double). The function will then return the Y value as type double.

**generateCSVFile Function**

The function will perform four main tasks. It will create the data structure to store the x and y value s in a “X, Y” format. The next task is to received and store the u ser input s for the trial, a, b, and c value s. Next, the function will store the value s into the data structure. Finally, the function will generate the file based on the user’ s chosen file name and input the generated data into the file and turning it into a csv file. The function does not return anything, but instead creates the file with the data in the folder containing the program files.