CS225 Homework 4

Weighted Point Cloud: GUI

Deliverables: You will deliver 5 files as follows:

1. The Manager.java file from HW2, modified as needed.
2. The Cloud.java file, from HW 2, without modification (unless HW 2 goals were not met; in that case you may modify to correct the errors).
3. The WeightedCloud.java file from HW03, without modification (unless HW 3 goals were not met, in that case you may modify to correct the errors).
4. The CloudGUI.java file that displays point clouds as described below. This one file will create two stages, one for the unweighted and one for the weighted cloud.
5. The CloudPane.java file, created by extending the JavaFX Pane class. This is the class that displays the point cloud.

Only electronic documents submitted via Canvas are acceptable. Do not submit a hard copy of your assignment. Do not email your assignment to the course instructor or grader. You may submit the deliverables as individual files or provide as a single zipped file, either is acceptable.

Important: Late assignments will not be graded.

Problem Description: Use the definitions regarding point clouds given in assignments HW02 and HW03.

For this assignment, create two JavaFX Stages. One stage to display the unweighted point cloud, and one stage to display the weighted point cloud. Each stage shall do the following:

* Display a point cloud composed of ten randomly located points within the GUI.
* Connect the two closet points with a line.
* Connect the two points that are the furthest apart with a line.
* Place a plus sign, +, at the cloud’s center of mass.

Software Requirements:

There are no formal requirements for this assignment. Instead, the correctness of the cloud point display will be assessed by the grader.

Test Cases: There are no predefined test cases for this assignment. Instead, the software shall create a point cloud containing ten points placed randomly. The correctness will be assessed by the grader.

Instructions: Create the CloudGUI.java and CloudPane.java files to display the point cloud as directed. Note: It is possible to complete the assignment without using the Manager.java file. Turn the file in regardless.

Rubric: Per that grading rubric below.

|  |  |  |
| --- | --- | --- |
| **Deliverable** | **Points** | **Awarded** |
| Code format, style, | 5 |  |
| Code compilation | 5 |  |
| Correct display for unweighted cloud | 15 |  |
| Correct display for weighted cloud | 15 |  |
| Totals | 40 |  |