CS225 Homework 5

Point Cloud: GUI with Interaction

Deliverables: You will deliver 5 files as follows (Note: You may not be using all of these files; turn them in anyways):

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. Only one stage is required for HW 5, though you may choose to display two stages as was done in HW4.
5. The CloudPane.java file from HW4, modified as needed. 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 previous assignments.

For this assignment display a point cloud as was done in HW4. You are only required to display one Stage, though you may display both clouds in two stages as was done in HW 4. If you display one cloud, it is your choice as to which cloud you display, weighted or unweighted.

The display(s) must contain four buttons, each of which performs exactly one of actions.

* Display a point cloud composed of ten randomly located points within the GUI. Any point cloud displayed when the button is clicked shall no longer be shown.
* “Toggle” a line connecting the two closet points. When the cloud is first created, no line is shown. Repeated clicks toggle the line from visible to not visible.
* “Toggle” a line connecting the two points that are the furthest apart.
* “Toggle” a plus sign, +, at the cloud’s center of mass in the same manner as for the lines.

Software Requirements:

There are no formal requirements for this assignment.

Test Cases: There are no predefined test cases for this assignment. The grader will base the grade on interactions using the buttons.

Instructions: Modify the files used for HW 4 to complete this assignment.

Rubric: Per that grading rubric below.

|  |  |  |
| --- | --- | --- |
| **Deliverable** | **Points** | **Awarded** |
| Code compilation | 8 |  |
| Correct behavior for each button | 32 |  |
| Totals | 40 |  |