Opacitor Experiments

# Experiment 1: Looking at the difference in energy between iterative and recursive loops

Date:

## Purpose

To see the effects of energy consumption on a iterative and recursive looped bubble sort according to the Opacitor.

## Hypothesis

* That the iterative version should use less energy

## Materials

Test file: iterativeBS.java and recursiveBS.java

Number of Repetitions: 10

## Procedure

1. Run iterative bubble sort class through AnnaGin.
2. Gather 4 random edits and add to a patch
3. Apply patch to the triangle code.
4. Compile new code
5. Measure energy
6. Measure time taken
7. Run recursive bubble sort class through AnnaGin.
8. Gather 4 random edits and add to a patch
9. Apply patch to the triangle code.
10. Compile new code
11. Measure energy
12. Measure time taken
13. Compare the results

## Data

## Results

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Iterative** | | | **Recursive** | | |
| **Repetition** | **Did it compile?** | **Time taken (miliseconds)** | **Energy Consumption (J)** | **Did it compile?** | **Time taken (miliseconds)** | **Energy Consumption (J)** |
| 1 |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |
| 9 |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |

## ScreenShots

## Conclusions

# Experiment 2: Patch with all edits