

Updates

The biggest change to our original plan was the regression algorithm. We went into this thinking that it would be similar to calculating lines of best fit, but really, the start and end positions were set, so it was really about finding which path each dancer should take, so path of least cumulative distance travelled. It instead finds the permutations of the line and finds the cumulative distance travelled by all the dancers in each permutation.

We eliminated the formation class because we found the algorithm to determine the next formation worked best when the calculation was discrete. All of the values are stored in the stage arraylist, so we could calculate the shortest cumulative path for everyone much easier without trying to find a formula for any given formation.

We eliminated the steps[][] because we decided that we did not have to store every single value along the pathway. We simply had to know discrete start and end positions and the update method in the dancer can determine path and trajectory for the animation. Instead of having a stage matrix, we had dancers store information and the stage holds the dancer array. This helped us make it easier to move dancers and also for the animation code to move them smoothly.

We added fields to the Dancer class for the animation. The fields for nextPosition are used to determine velocity, which stays the same until the animated dancer hits the next stage, then it resets nextPosition and velocity to the next stage. We also changed positions to doubles, but the getter and setter method take in and return ints. This is for the animation to update and run changes in position smoothly.

We added an abstract Display class because we got rid of the formation class and we needed subclassing. This abstract class has 3 children, Welcome, Input, and Animation. The abstract Display class holds variables such as width, length, and scale of the frame. It also has a topPanel that is used in both Animation and Input. Our working prototype just read the text files, but our final has the user input the formations by clicking buttons in the Input class.