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Project Topic: Convex Hull Algorithm Visualizer

Project Description:
The user will be able to generate a number of 2D points using Gaussian distribution or uniform distribution, as well as adding new points manually. The user will then be able to immediately view the new convex hull. If the user so wishes they will also be able to view an animation of the currently chosen algorithm. The algorithm will be one of the four choices: Graham’s scan, Jarvis march, quick hull, and merge hull.

The user will be able to add new points (except when the animation is running), pan around, and zoom in. They will be able to switch between algorithms and visualize the algorithm step by step.

We will also prepare a report comparing these algorithms’ performances for different numbers of points. Also, the performance of adding new points to an existing convex hull will be analyzed.