**Assignment – 2 (3-SUM)**

Name: Aashay Pawar

NUID: 002134382

***Solve 3-SUM using the Quadrithmic, Quadratic, and (bonus point) quadraticWithCalipers approaches, as shown in skeleton code in the repository. There are hints at the end of Lesson 2.5 Entropy.***

**Evidence:**

A screenshot of a computer

Description automatically generated

Text

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**Results:**

Text

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Description automatically generatedGraphical user interface, text

Description automatically generatedGraphical user interface, text

Description automatically generated

Chart, line chart

Description automatically generatedA screenshot of a computer

Description automatically generated

**Explanation:**

From benchmark, we can assume the complexity level as

Quadratic < Quadrithmic < Cubic

Because we do not need to obtain all triplet combinations and check them as in the cubic technique, the quadratic method works so effectively. We begin by using a sorted array. We take the middle element of the triplet to be the one we loop through each element. We start with two pointers from the left and right of that element, and based on the triplet total, we either increase or decrease the pointers. Since the third loop is unnecessary, we switch from cubic to quadratic.