Project 4
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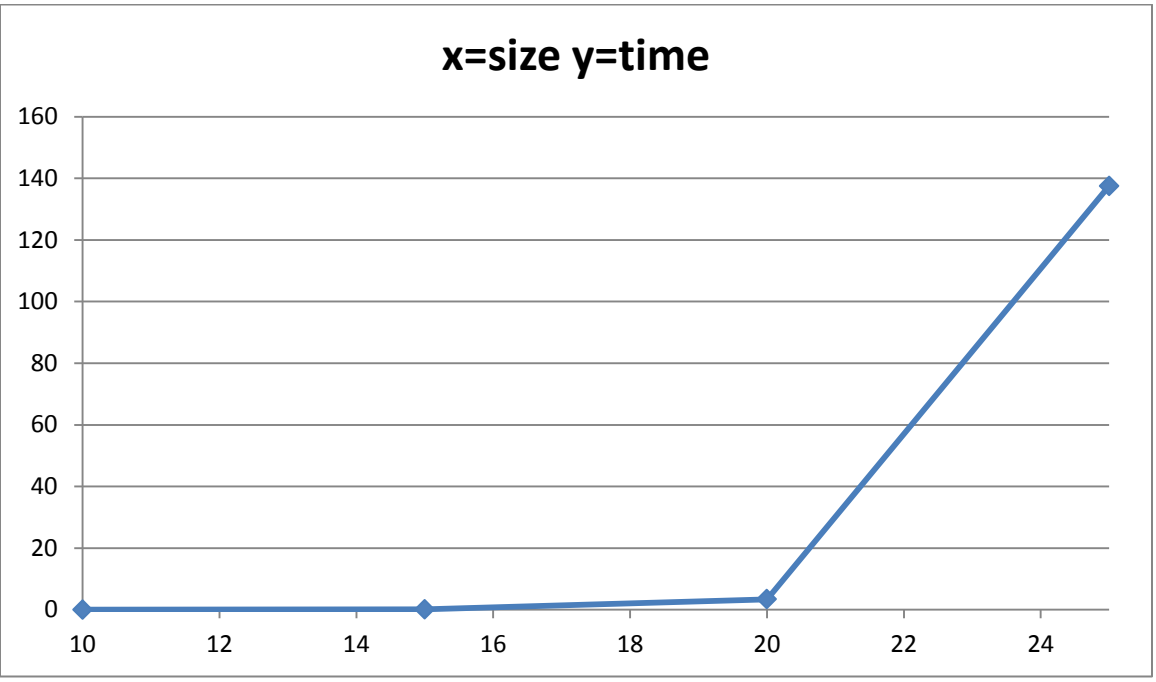
24 Dec 18

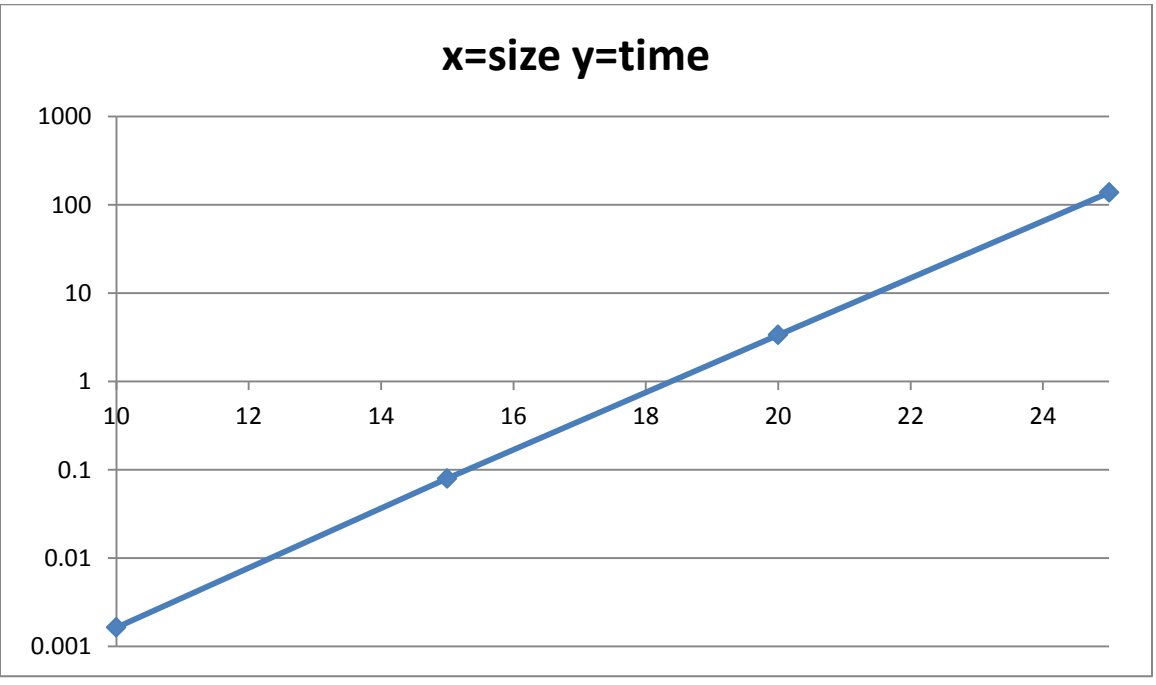
Data

N=	Exhaustive	Dynamic
10	0.00164436 seconds	3.8378e-05 seconds
15	0.0798994 seconds	8.9593e-05 seconds
20	3.36617 seconds	0.00014935 seconds
25	137.516 seconds	0.000231207 seconds

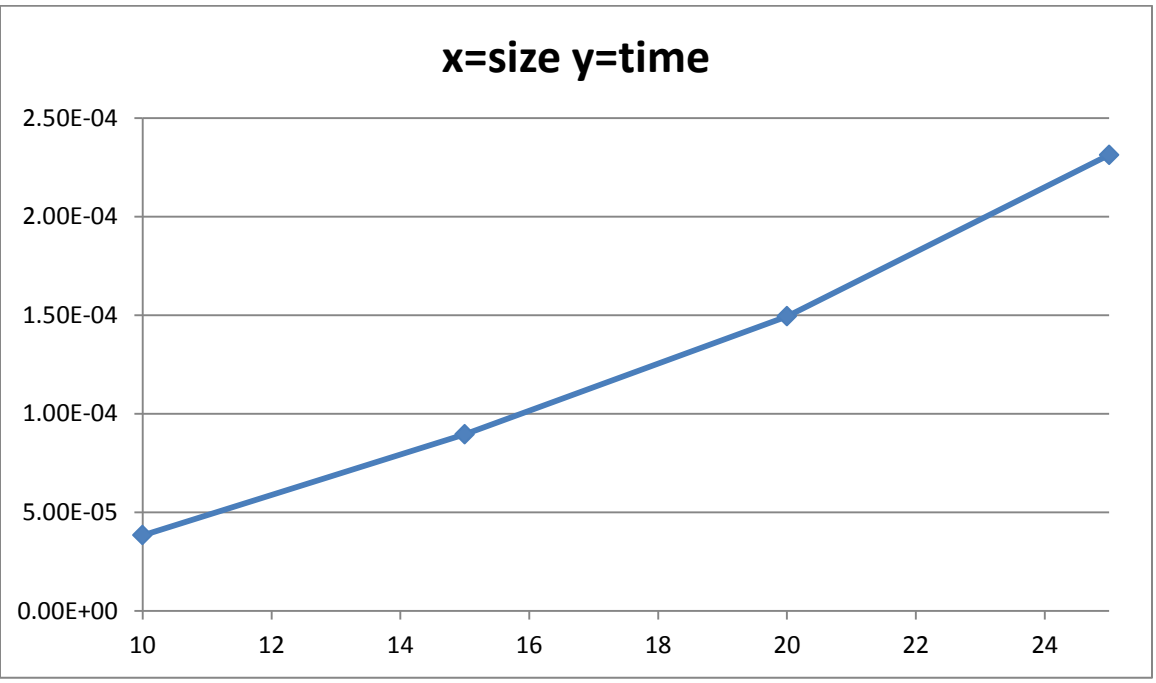
Exhaustive Algorithm



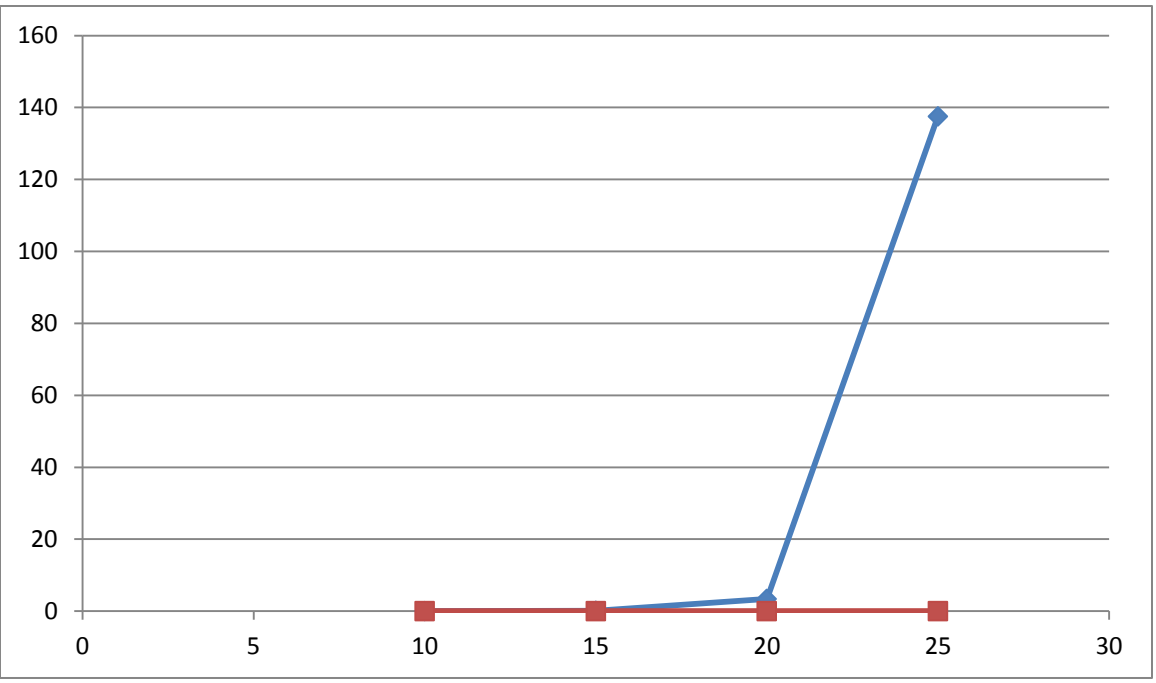
Exhaustive Log Chart



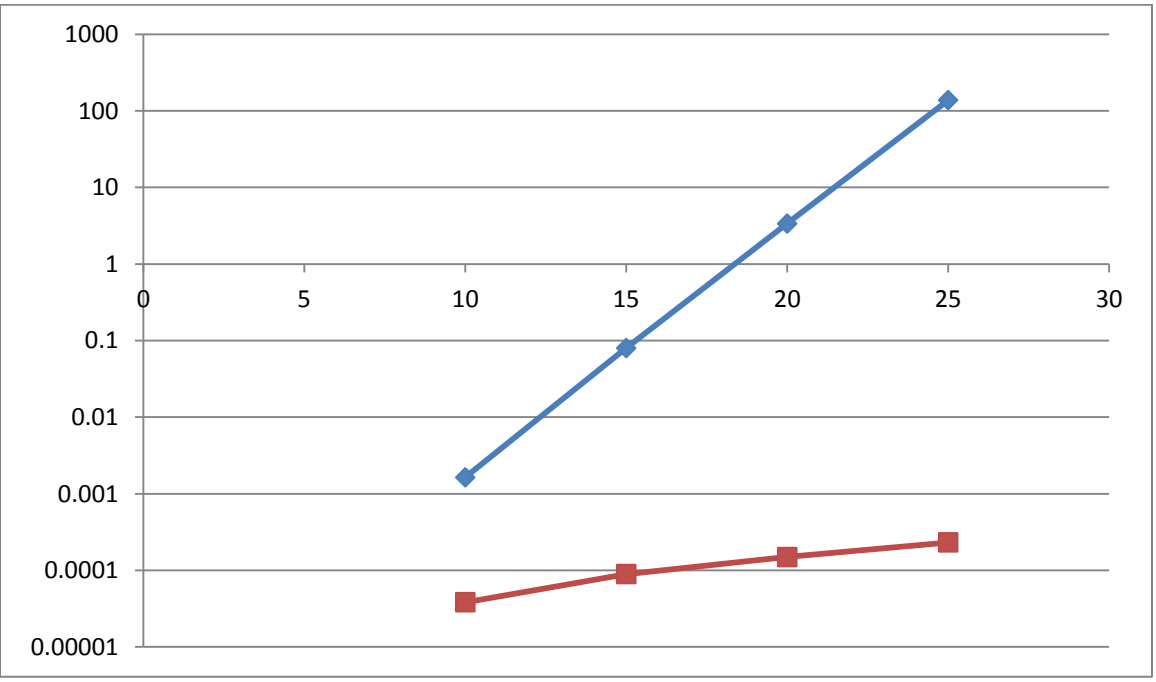
Dynamic Algorithm



Both



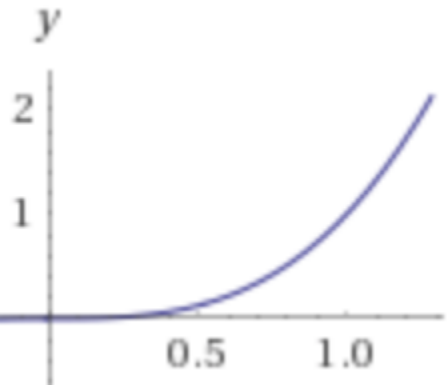
Both Log Chart



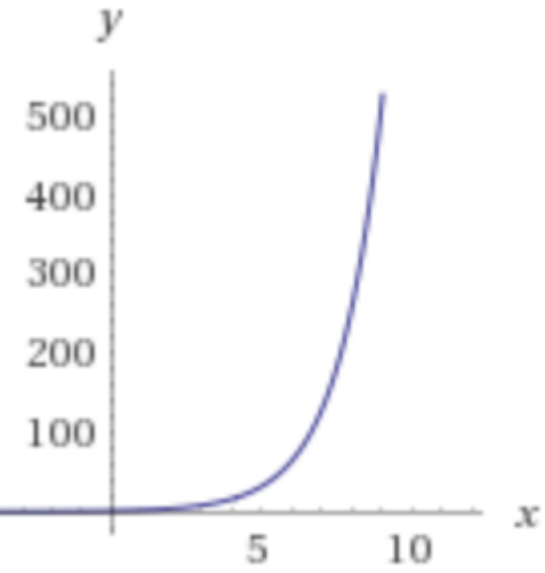
Are the fit lines on your scatter plots consistent with these efficiency classes? Justify your answer.

Yes, here we have an example of a generic exponential and generic cubic graph. The growth corresponds with with our scatter plot averages.

Cubic



Exponential



Is this evidence consistent or inconsistent with the hypothesis stated on the first page? Justify your answer.

This evidence is consistent with the hypothesis on the first page. Our data corresponds with the generic efficiency graphs.

Compare and contrast the difficulty you found in implementing the two algorithms. What was the most challenging part of implementing each algorithm. Overall, which implementation did you find harder, and why? Which algorithm implementation do you prefer?

I found that implementing the greedy solution was much easier than implementing the dynamic solution. Though the dynamic solution took a lot less time to run, it took a lot more time to code. This is probably due to the challenge of creating data structures to memorize previously completed steps. I prefer the greedy method of implementing this.