

Examples of responses for each grading category:

Excellent

The paragraph explains the experiment, describes the supporting data, draws a conclusion, and discusses the results (against expectations).

This graph compares the performance of mergeSort, mergeSortHalfSpace, and quicksort for both random and ordered inputs. I tested every size from 1-100 and compared the number of operations. We can see from the graph that all three sorts increase somewhat linearly, with a slight curve ($n \log n$). We can see that one line is lower than the other two. Overall, for all inputs, quickSort was the fastest, then mergeSortHalfSpace, then mergeSort. I expected mergeSortHalfSpace to be faster than mergeSort since it needs to copy less data, but I was surprised that it was not able to beat quickSort. This makes sense, since quickSort does not need to copy any data.

Good

The paragraph has some description of the experiment (although not as detailed), a conclusion, and some discussion. However, there is no description of the data or how it supports the conclusion.

I compared mergesort, mergehalf, and quicksort for inputs up to 100. Quicksort is the fastest, then mergehalf, then the original mergesort. Mergehalf should have been faster than mergesort which is confirmed by my data. I expected quicksort to be the fastest and my data confirms this as well.

Fair

The paragraph has some discussion of the graph but is missing some parts and both the conclusion and expectations are not as comprehensive as the other paragraphs.

Quicksort is the fastest of the three sorts. I expected it to be faster than both mergeSortHalf and mergeSort. MergeSortHalf was in the middle.

Poor

A low-effort discussion of the experiment. Some explanation of the experiment is present.

This graph shows the three sorts compared for random and ordered data.