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Data Structures and algorithms

The Merge sort is a recursively implemented sorting algorithm that divides a dataset into smaller sub lists until each is filled with one item then merges each sub list while simultaneously sorting until the dataset is put back together fully sorted. The Quick sort is another recursive algorithm that sets a middle value as a pivot value and uses two pointers to swap values to each side based on weather the value is greater or less than the pointer.

Quick sort is simple to code and has a low memory overhead. Merge sort has a higher memory overhead but generally performs faster in larger datasets. Using a O(n^2) like bubble sort can be more useful in smaller programs because their simplicity and low resource usage in small datasets.