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Project 8 Documentation

Project 8 required the implementation of two recursive functions of templated vectors. The first function was a quicksort algorithm that recursively called itself. The second function is a recursive binary search algorithm. The first step in making this project was to create a proper makefile, which was simple enough given the fact that I have already made four of these in the past. After a swapping a few names on a previous makefile, the project compiled correctly and it was time to get to work on the functions. The first function I worked on was the sorting algorithm. As suggested, I decided to do some research on quicksort and decided that would be the best algorithm to implement. After understanding the concept of how the sort would work, I put the concept into code and the sort algorithm was created. The next function, the binary search, had a similar process to it.I did some research, understood the concept, put the concept to code, simple as that. The functions now worked perfectly with integer arrays so it was now time to make templated vectors instead of arrays. The transition was much simpler than expected, but the big problem came in the binary function causing a segmentation fault. After reviewing the code, I realized one of my recursive calls was pointing to nothing, so I fixed that quickly. After that, the program worked. If given extra time, I would definitely would have done the extras and tested out the sort and the binary search functions.