

As I tested larger and larger values of n for Hanoi. I seemed to notice that every time I increased n by 1, the runtime almost doubled. While I haven't seen this kind of growth in a function before, it does make sense that the Hanoi function grows like that since each call calls the recursive Hanoi function another two times. So therefore, I would say that the Big O is 2^n .

To switch between the different kinds of dequeues using the command line, we'd have to add space for a string argument for the name of what kind of deque we want our program to use. That was we could just use a function like `get_deque` and instead of checking if a certain indexed argument from the input is equal to a certain numerical value, we can instead check for a string value like "array" or "linked_list" from a certain indexed argument.

To test Hanoi, I ran the function and looked at what was specifically in the Stacks. I looked to see if any of the stacks weren't in the proper order in terms of which order the blocks were supposed to be placed on the pegs. Since my output for $n=3$ was also matching the project descriptions output, this meant that my output was probably right and was using the right logic to move around the blocks.

To test the delimiters, I made my own text file for tests with grouping symbols in them and put the filenames in the command line as an argument. I checked several of both cases that worked and ones that didn't work to see if the delimiters were being checked properly. To do so, I had to check cases that had extra opening grouping symbols, extra closing symbols, and finally symbols out of place. Since all my test cases worked, I know that the program worked successfully.