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APCS2 pd5

HW #42 -- 3, 2, 1, . . .

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Data Structures Visualizer

We propose to have a visualizer for the data structures we've learned in class this year. A user would create a list with comparable numbers and the functions of each data structure would include add, delete, sort. They can choose which sort they'd like to use. They could also merge two lists together. There will be buttons that allow the user to perform these operations. There would also be a button to merge two lists together. A user can choose to visualize this in one click or they can step through the process.

*Adding: Depending on the data structure, there will be certain features for adding. Stacks can only add to the top. On other lists, you can specify where to add.*

*Deleting: The process for deleting something from a list will be similar to adding. For stacks, deleting would just be popping, but other data structures can take an input and remove it if it is in the list.*

*Sorting: The user will be able to see how sorting works for each data structure.*

*Merging: The user will input two sets of numbers and then click a merge button and select what kind of data structure they'd like to turn it into. The merge button will use merge sort to create that data structure.*

The representations for the comparables will be numbers in a box until we find something prettier.