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Sorting Documentation

Every algorithm sorts twice. The first time runs the selected algorithm and sets timeouts to visualize each change. After finishing, the timeouts sort the visualized display. Sorting and updating the display are done separately because timeout() has a minimum delay of 4ms, which is too slow for some algorithms. Instead, the current method has a minimum delay of 1ms by setting all timeouts in advance and incrementing the delays.

Setting all timeouts at the start creates an issue. When the user leaves the sorting page, the timeouts still run; however, the sorting bars no longer exist. When the user returns to the page, timeouts up to 100,000 are cleared to fix this. The user may reach a timeout greater than 100,000; however, this is unlikely. Clearing timeouts past 100,000 also slows the loading time.

Sorting delays are set at different times to allow the user to see the sorting process. The delays are Bubble: 1ms, Insertion: 1ms, Heap: 5ms, Quick, 7ms, and Selection: 30ms.

The speed on the website is not representative of the speed of each algorithm. The displayed speed equals the delay time multiplied by the number of sorting operations. The displayed speed does not include the speed of all other operations.