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Experiment - 1B.

Aim: Experiment on finding the running times of an algorithm.

Theory: In this experiment we learnt about Insertion sort & Selection Sort

Insertion sort: Works similar to the way you sort playing cards in your hand. The array is virtually split into a sorted & Unsorted array & values from unsorted array are picked & placed at correct location in the sorted array

Selection sort: It repeatedly selects minimum element from unsorted array & swaps it with first unsorted element until the array is sorted

Conclusion: Insertion sort is faster than selection sort for small / partially sorted array, as number of swaps required is minimum. Selection sort is better suited for large arrays that are randomly ordered. Insertion sort is often used in embedded systems, where memory & processing constraints are concern. Selection sort is less commonly used in real-word applications.

	Time comp.	Space comp.
Insertion sort	$O(n^2)$	$O(1)$
Selection sort	$O(n^2)$	$O(n)$