# Assignment 34

Q Differentiate b/w 3 sorting algorithms
Bubble sort, insertion & radin sort

Bubble sort, insertion sort & Radin sort
are all algorithms for sorting data
in ascending or descending order, but
each has its own approach and
strengths:

→ Bubble sort:
- Simple sorting algorithm that repeatedly steps through the list, compares adjacent elements and swaps them if they are in the wrong order.

- Time complexity : $O(n^2)$

→ Insertion Sort:
- An efficient algorithm for sorting a small number of elements.

- Works by building up the sort by gradually creating a larger left half eg. which is always sorted

- Time complexity : $O(n^2)$

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3 Radix Sort :

- A non- comparative integer sorting algorithm that sorts data with integer keys by grouping the keys by individual digits that share the same significant position & value.

- Time complexity : $O(nk)$ where 'n' is the number of elements to be sorted and k is the number of digits in the largest number.