

Radix Sort

Radix sort is a sorting technique that sorts the elements by first grouping the individual digits of the same **place value**. Then, sort the elements according to their increasing/decreasing order.

Suppose we have an array of 8 elements. First, we will sort elements based on the value of the unit place. Then, we will sort elements based on the value of the tenth place. This process goes on until the last significant place.

Let the initial array be [121, 432, 564, 23, 1, 45, 788].

It is sorted according to radix sort as shown in the figure below.

1 2 1	0 0 1	0 0 1
0 0 1	1 2 1	0 2 3
4 3 2	0 2 3	0 4 5
0 2 3	4 3 2	1 2 1
5 6 4	0 4 5	4 3 2
0 4 5	5 6 4	5 6 4
7 8 8	7 8 8	7 8 8

sorting the integers according to units, tens and hundreds place digits

Applications

Radix sort is implemented in

- places where there are numbers in large ranges.