Introduction:

Radix sort is a non-comparative sorting algorithm that sorts data by processing individual digits or characters of numbers or strings, from the least significant digit to the most significant digit. Its complexity depends on the number of digits or characters in the input data and the radix (base) of the numbering system being used. The time complexity of radix sort is O(nk), where n is the number of elements to be sorted and k is the number of digits or characters in the input data.Radix sort can be more efficient than comparison-based sorting algorithms, such as quick-sort or merge-sort, especially when the range of the input data is known and relatively small compared to the number of elements to be sorted. It's particularly efficient when sorting integers or strings with fixed-length representations.

1. Founder and Founded Year
   - *Founder*: The concept of radix sort dates back to the work of Herman Hollerith in 1887, but the algorithm's formalisation and development are attributed to various contributors over the years.
   - *Founded Year*: Radix sorting algorithms came into common use for sorting punched cards as early as 1923, marking the initial practical application of the concept.

2. Concept:
   - Radix sort is a non-comparative sorting algorithm that operates by processing individual digits or characters of numbers or strings, progressing from the least significant to the most significant digit or character. It sorts elements by their radix, which is the base of the numbering system used to represent them.

3. Length-wise Sorting:
   - Radix sort operates independently of the length of the elements being sorted. It can effectively handle numbers or strings of varying lengths by processing each digit or character sequentially, ensuring that shorter elements are appropriately sorted relative to longer ones.

4. Time and Space Complexity:
   - *Time Complexity*: The time complexity of radix sort is $O(nw)$, where n is the number of elements to be sorted, and w is the number of digits or characters in the longest element. Despite its linear time complexity, radix sort can outperform comparison-based algorithms in certain scenarios.
   - *Space Complexity*: Radix sort typically has a space complexity of $O(n + k)$, where k represents the radix or base of the numbering system. Additional space may be required for auxiliary data structures during the sorting process.

5. Stability:
   - Radix sort can be implemented to be stable, meaning that it preserves the relative order of elements with equal keys. Stability ensures that elements with the same key value maintain their original order in the sorted output, which is essential in certain applications.

Source :Wikipedia (1st link)