Searching and Sorting technique

We can use some utilities classes which help to do searching and sorting data from array as well as collection of classes.

We can't write custom logic which help to do soring as well as searching.

Few sorting algorithms : display the elements in ascending or descending order.

1. Selection sort : Selection sort is conceptual is most simplest sort technique or algorithms. In This algorithm we will first find the smallest or largest number or element in the array and swap it with elements in the first position when conditions satisfied. Then will find the second smallest element and swap it with element in the second position and it will keep on doing this until the entire array is sorted in asc or desc.
2. The bubble sort :In Bubble sort algorithms elements or numbers repeatedly swapping adjacent element that are not in order unit the whole list of items in sequence.
3. Insertion sort : The insertion sort repeatedly scan the array or list of items or data, each time inserting the items in the unsorted sequence into its correct position.
4. Merge sort : Merge sort algorithm use divide and conquer rules. They divide huge array into n number of parts and individually they do sorting for each part and they merge it.

Searching technique :

1. Linear search : Linear search also known as sequential search. In this search technique we need to search element in array one by one till end.
2. Binary search : binary search technique use divide and conquer rules. It is good when array hold huge data. Binary search work in sorted array.

Searching and sorting data using pre defined utilities classes.

Collection Framework contains two utilities classes ie

Arrays it help to do sorting for primitive array

Collections it help to do the sorting for list.

Sorting with complex object ie user defined object like Employee, Customer, Product etc.

Collections.sort(listReference);

It check ListReference what type of data it hold.

If it hold Wrapper classes object ie Integer, Float, Character, Double as well as String it will do sorting those values.

All wrapper classes internally implements Comparable interface and that interface contain one method is compareTo method. which provide a logic to do sorting by default ascending.

But when we store user defined object our user defined class doesn't implements by default comparable interfaces.