Phase 2 :

9 days

SQL Self learning using MySQL Database -🡪

JDBC

Hibernate

JEE Servlet and JSP

Searching and Sorting technique without collection framework.

Searching : Searching is use to search a particular elements from array.

int num[]={4,1,6,9,6,7,3,2,5}

Linear Search : Linear search also known as orderly search or sequential search.

Adv

When a key element matches the first element in array. Then linear search algorithms is best case.

This search technique good for small to medium array.

In this technique array doesn’t need to be sorted.

Dis Adv

When a key element matches the last elements in the array or the key elements doesn’t matches any element then linear search algorithms is worst case.

Binary Search

Binary search is one of the fastest searching algorithms. It is used to find the location of an elements in an array. It works on the principle of divided and conquer rule or technique.

If we want to use binary search technique on array. The array must be sorted order we can’t use binary search on un sorted array.

Adv

For large list of array or elements.

Dis Adv

It work only on sorted array

It require more stack space.

1. 100

66

1 to 50 no need to check

50 to 100

50 to 75

62 to 75

Exponential Search The term exponential search or term mainly apply for infinite array elements. This technique apply as mathematically rising in powers.

0,2,4, 8,16,32

1,3,9,27, etc

This technique internally use binary search and binary search need elements in sorting order.

Linear search : small to medium array

Binary search : finite array large array

Exponential search : infinite array large array

Sorting technique

Sorting is use to sort the elements from an array may be ascending order or descending order.

Selection Sort : it is type of simplest sorting technique. In This algorithms it will first find the smallest elements in the array and swap it with the element in first position, then it will find the second smallest elements and swap it with the elements in second position and it will keep on doing this until entire array is sorted. If we are planning to do sorting in ascending order. If we are planning to do descending order then we have to check largest elements.

Adv : The main advantage of the selection sort is that it perform well on small array elements.

Div Adv : The primary disadvantage of the selection sort is its poor efficiency when dealing with huge list of elements.

It required extra variable to hold min or max value.

Bubble Sort : The bubble sort algorithms works by repeatedly swapping adjacent elements that are not in order until the whole list of items is in sequence.

Adv : It is easy to use. And no extra space or variable is required.

Div Adv : The primary disadvantage of the selection sort is its poor efficiency when dealing with huge list of elements.

Insertion Sort : the insertion sort sorts repeatedly scan the list of items, each time inserting the items or values in unordered sequence into its correct position.

In Insertion sort the dataset by transferring one element at a time to the partially sorted array.

Merge sort :merge sort use divide and conquer rules to the sorting. This sorting algorithms good for huge array data.