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Qno:- Fill in the blanks?

- ① Physical
- ② Logical
- ③ Data structure / Data arrangement / Data formation
- ④ Non-linear Data Structure.
- ⑤ ~~Heterogeneous / Aggregate~~ / linear / homogenous
- ⑥ Binary Search.
- ⑦ 8
- ⑧ Identification Parade / example of life
- ⑨ Degree of record
- ⑩ Blocking factor

Qno:-

Solution:- Given Data

Size Array  $A[] = 15654$

lower bound = lb = 36767

Find upper bound = ub = ?

We know that size of

$$A[] = ub - lb + 1$$

$$A [7] = ub - lb + 1$$

$$15654 = ub - 36767 + 1$$

$$15654 = ub - 36766$$

$$36766 + 15654 = ub$$

$$52420 = ub$$

$$ub = 52420$$

$$\text{Upper bound} = 52420$$

(b) :- Suppose list of 350 element is to be sorted using bubble sort.

Solution :-

(i) Total number of passes :- =

$$\text{number of element} - 1$$

$$= 350 - 1 = 349$$

(ii) Total number of steps :-  $\frac{n(n-1)}{2}$

$$\text{Number of steps} = \frac{350(350-1)}{2}$$

$$= \frac{350(349)}{2}$$

$$= \frac{122150}{2}$$

$$\text{Steps} = 61075$$

(iii) :- Number of step pass #137

$$\text{Number of step} = n - \text{pass \#}$$

$$n = 350$$

$$\text{Number of steps} = 350 - 137 = 213$$

$$\text{Step in pass \#137} = 213$$

(iv) Number of step pass #193

$$\text{Number of step} = n - \text{pass \#}$$

$$\text{Number of steps} = 350 - 193$$

$$\text{Number of step \#193} = 157$$

Ques: Sort the given list using Selection Sort, 10, 15, 0, 7, 8, 6

Solution: No. number of element = 6

$$\text{Steps} = n - 1 = 6 - 1 = 5$$

Step # 1:-

element 10

(10), 15, (0), 7, 8, 6

we should interchange their position

0, 15, 10, 7, 8, 6

Step # 2:-

element no 15

0, (15), 10, 7, 8, (6)

Interchange position

0, 6, 10, 7, 8, 15

Step # 3:-

element no 10

0, 6, (10), (7), 8, 15

R = 0, 6, 7, 10, 8, 15

Step # 4:-

element no 10

0, 6, 7, (10), (8), 15

R = 0, 6, 7, 8, 10, 15

Step # 5:-

0, 6, 7, 8, 10, 15

Now 10 is on its position

Sorted list

0, 6, 7, 8, 10, 15