Mon Tue Wed Thu Fri Sat

Date: __/__/20__

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QUESTION-No-1

PART 'A'

Let the size of A[] be 15654 and the lower bound be 36767 calculate the upper bond.

Sol:-

Given:

=> size of Array A[ ] = 15654

=> lower bound = 36767

Required:

upper bound = ?

So,

according to the given condition we have,

$$S = ub - lb + 1 \quad \rightarrow (1)$$

Put the values of S and ub in eq (1)

$$15654 = ub - 36767 + 1$$

$$-ub = -15654 - 36767 + 1$$

$$+ub = +(15654 + 36767 - 1)$$

$$ub = 15654 + 36766$$

$$ub = 52420 \quad \text{Answer}$$

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QUESTION-No-1

PART 'B'

ANSWER:-

Given:-

No of elements = 350

Required:-

① Total number of passes = ?

② Total number of steps = ?

③ Number of steps in pass 137 = ?

④ Number of steps in pass 197 = ?

So,

① Number of passes = ?

$\Rightarrow n - 1 \Rightarrow 350 - 1 = 349$

② Number of steps = ?

$\text{steps} = \frac{n(n-1)}{2} \Rightarrow \frac{350(350-1)}{2}$

steps = 61075

③ Number of steps in pass 137 = ?

$\Rightarrow n$ - no of pass

$\Rightarrow 350 - 137 = 213$

④ Number of steps in pass 197 = ?

$\Rightarrow n$ - no of pass

$\Rightarrow 350 - 197 = 157$

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QUESTION - No - 2

Sort the given list using selection Sort. 10, 15, 0, 7, 8, 6

ANSWER:-

$n = 6$

Steps => $n-1$ => $6-1 = 5$

So we have to write five steps.

step#1 :- Element 10

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

0, 15, 10, 7, 8, 6

step #2 :- Element 15

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

0, 6, 10, 7, 8, 15

Step #3 :- Element 10

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

0, 6, 7, 10, 8, 15

step #4 :- Element 10

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

0, 6, 7, 8, 10, 15

step #5 :- Element 10

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

So, 10 is at it's proper position.

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QUESTION - No - 3

Fill in the blanks.

(1) Physical Data structure may deal with only a single value.

(2) logical Data structure may deal with multiple value.

(3) The logical / mathematical organization of data is called data structure

(4) A Tree is a non-linear Data structure.

(5) An Array is a linear Data structure.

(6) List must be sorted for Binary searching.

(7) 17 int-div 2 = 8.

(8) An investigation parade of criminals is an example of file.

(9) Number of fields in a Record is called Degree of record.

(10) Number of Records in a blocks is called Blocking factor.