

Date: _____

①

NAME : Aqib Bangash

ID : 15415

Degree : BSS E

Subject : Data Structure and Algor

Semester : 3rd

Teacher : Muhammad Adid

Q3: fill in the blanks

- ① Physical
- ② Logical
- ③ Data structure / Data arrangement / Data formation.
- ④ Non-linear Data structure
- ⑤ Linear / homogenous
- ⑥ Binary search.
- ⑦ ~~8~~
- ⑧ Degree of record
- ⑨ Blocking factor
- ⑩ Identification Pasade (example of life).

Q: 1

Size Array $A[] = 15654$
lower bound = $lb = 36767$
find upper bound = $llb = ?$

we know that size of
 $A[] = llb - lb + 1$

$$A[] = llb, lb-1$$

$$15654 = llb - 36766711$$

~~36766~~ $15654 = llb - 36766$

$$36766 + 15654 = llb$$

$$52420 = llb$$

$$llb = 52420$$

upper bound = 52420

Suppose list of 350 element
is to be sorted using bubble sort.
Solution:-

i Total number of Passes :- =
Number of element - 1
= 350 - 1 = 349

ii Total number of steps $\frac{n(n-1)}{2}$
Number of steps = $\frac{350(350-1)}{2}$
~~= $\frac{350 \times 349}{2}$~~
 $\frac{350(349)}{2}$

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

$$\text{Step} = 61075$$

Number of step Pass # 137
Number of step = N - Pass #

n = 350

Number of steps = 350 - 137 = 213

Step in Pass # 137 = 213

Number of step Pass # 143

Number of step = N - Pass #

Number of steps = ~~137~~ - ~~Pass #~~

Number of step# 350 - 143

↓ 143 = 157

Q3:

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

Solution

$N = \text{Number of element} = 6$

steps = $n - 1 = 6 - 1 = 5$

Step # 1

element 10

10, 15, 0, 7, 8, 6

we should ~~interchange~~ interchange their position

0, 15, 10, 7, 8, 6

Interchange Position
 0, 6, 10, 7, 8, 15

Step # 2:

element no 15

0, 6, 10, 7, 8, 6

interchange position

0, 6, 10, 7, 8, 15

Step # 3:

element 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, 10, 8, 15

Step 5:-

0, 6, 7, 8, 10, 15

Now 10 is on its position

Sorted list

0, 6, 7, 8, 10, 15