

Vish Srinwatana

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22 29

# ①

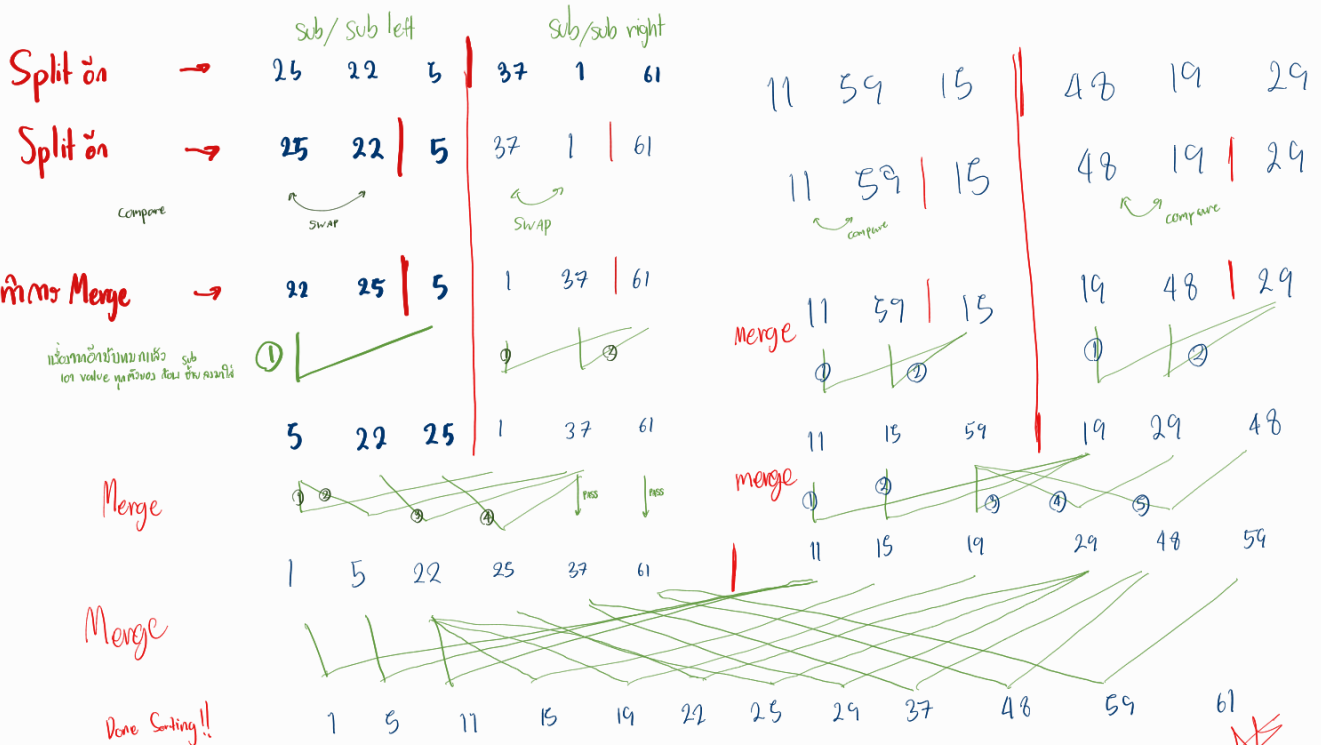
25 22 5 37 1 61 11 59 15 48 19 29 (11 index)

Using Merge Sort Algorithm

ข้อมูล → 25 22 5 37 1 61 11 59 15 48 19 29

คำนวณ MID  
index  $\rightarrow (0+n)/2 = \lfloor 5.5 \rfloor = 5$  → 25 22 5 37 1 61 | 11 59 15 48 19 29

เลือก left sub  
arr array → 25 22 5 37 1 61 | 11 59 15 48 19 29



# Using Quick Sort Algorithm

25 22 5 37 1 61 11 59 15 48 19 29 (11 index)

Select Pivot

(25)

22 5 37 1 61 11 59 15 48 19 29

↓ minor pivot  
↓ major pivot

find > pivot

(25)

22 5 (37) 1 61 11 59 15 48 19 (29)

swap

(25)

22 5 29 1 61 11 59 15 48 19 37

(25)

22 5 37 1 61 11 59 15 48 19 29

(25)

22 5 37 1 19 11 59 15 48 61 29

(25)

22 5 37 1 19 11 15 59 48 61 29

(25)

22 5 37 1 19 11 15 59 48 61 29

(25)

22 5 15 1 19 11 37 59 48 61 29

(25)

22 5 15 1 19 11 37 59 48 61 29

(25)

11 22 5 15 1 19 (25) 37 59 48 61 29

fix

sel sub pivot

(11)

22 5 15 1 19

(11)

1 5 15 22 19

(11)

1 5 15 22 19

5

1 (11) 15 22 19

(5)

1 (15) 22 19

1

5 15 22 19

1

5 11 15 19 22

1

5 11 15 19 22

(37)

59 48 61 29

(37)

29 48 61 59

29

(37) 48 61 59

48

(48) 61 59

48

(61) 59

59

61

25

29 37 48 59 61

25

29 37 48 59 61

# 2

5 22 15 20 28 32 35 61 82 83 90 29

(index 11)

## USING MERGE SORT ALGORITHM

5 22 15 20 28 32 <sup>MID-1</sup> | <sup>MID</sup> 35 61 82 83 90 29

5 22 15 | 20 28 32 <sup>MID-1</sup> | <sup>MID</sup> 35 61 82 | 83 90 29

↓ ↓

5 | 22 15      20 | 28 32

5 | 15 22      20 | 28 32

5 15 22 | 20 28 32

5 15 20 22 28 32

35 | 61 82

35 | 61 82

35 61 82

83 | 90 29

83 | 90 29

83 29 90

Merge 35 61 82 | 29 83 90

29 35 61 82 83 90

5 15 20 22 28 32 | 29 35 61 82 83 90

5 15 20 22 28 29 32 35 61 82 83 90

##

## Using Quick Sort Algorithm

5 22 15 20 28 32 35 61 82 83 90 29  
j i  
5 22 15 20 28 32 35 61 82 83 90 29

22 15 20 28 32 35 61 82 83 90 29

20 15 **22** 28 32 35 64 82 83 90 29

↓

20	15
15	20

28 32 35 64 82 83 90 29

j

28

↓

~~39~~ 35 64 82 83 90 26  
i j

~~39~~ 24 64 82 83 90 35  
j i

29 32 69 82 83 90 95

	i				j
69	82	83	90	35	
41	35	83	90	82	

25 61 83 90 82

↓  
83 90 82

(83) 82 90  
j. i

82 (83) 90

5 15 20 22 28 29 32 35 64

~~\*~~