PEMBAHASAN UAS ALPRO 15/16

1. Data urut :

	a									t					b
7	10	12	14	22	25	27	30	33	35	37	40	45	63	80
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

$Ta = 1$

$Tb = 15$

$Tt = (Ta + Tb)/2 = (1 + 15)/2 = 8$

Depend on data :

   data $= t$: found

   data $< t$: $Tb = Tt - 1$

   data $> t$: $Ta = Tt + 1$

a) data $= 14$

1	7	a		1	7	a	
2	10	• $t = 30$		2	10	• $t = 14$	
3	12	• data $< t$		3	12	• data $= t$	
4	14	→ $Tb = Tt - 1$		4	14	t → data found	
5	22	$= 8 - 1$	→	5	22		
6	25	$= 7$		6	25		
7	27	→ $Tt = Ta + Tb$		7	27	b	
8	30	t 2					
9	33	$= \dfrac{1 + 7}{2}$					
10	35						
11	37	$= 4$					
12	40						
13	45						
14	63						
15	80	b					

b) data = 63

1	7	a
2	10	• t = 30
3	12	• data > t
4	14	→ $Ta = Tt+1 = 8+1 = 9$
5	22	
6	25	→ $Tt = Ta + Tb$
7	27	$\frac{2}{}$
8	30	t = $\frac{9+15}{2}$
9	33	= 12
10	35	
11	37	
12	40	
13	45	
14	63	
15	80	b

• t = 90
• data > t

9	33	a → $Ta = Tt+1 = 12+1 = 13$
10	35	
11	37	→ $Tt = Ta + Tb$
12	40	t $\frac{2}{}$
13	45	= $\frac{13+15}{2}$ = 14
14	63	
15	80	b

• t = 63
• data = t

13	45	a
14	63	t → data found
15	80	b

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② data :

10	25	22	7	40	12	35	63	14	30
1	2	3	4	5	6	7	8	9	10

1. i = 1 & j = 1
   data[1] < data[2]
   false

2. i = 1 & j = 2
   data[2] > data[3]
   swap
   →
10	22	25	7	40	12	35	63	14	30
1	2	3	4	5	6	7	8	9	10

3. i = 1 & j = 3
   data[3] > data[4] : swap
10	22	7	25	40	12	35	63	14	30
1	2	3	4	5	6	7	8	9	10

4. i = 1 & j = 4
   data[4] < data[5] : false

5. i = 1 & j = 5
   data[5] > data[6] : swap
10	22	7	25	12	40	35	63	14	30

6. i = 1 & j = 6
   data[6] > data[7] : swap
10	22	7	25	12	35	40	63	14	30
1	2	3	4	5	6	7	8	9	10

7. i = 1 & j = 7
   data[7] < data[8] : false

8. i = 1 & j = 8
   data[8] > data[9] : swap
							14	63	30
1	2	3	4	5	6	7	8	9	10

9. i = 1 & j = 9
   data[9] > data[10] : swap
10	22	7	25	12	35	40	14	30	63
1	2	3	4	5	6	7	8	9	10

10. i = 2 & j = 1
    data[1] < data[2] : false

11. i = 2 & j = 2
    data[2] > data[3] : swap

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12 i=2 & j=3
    data[3] < data[4] : false
13 i=2 & j=4
    data[4] > data[5]

| | | 12 | 25 | 35 | 40 | 14 | 30 | 63 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

14 i=2 & j=5
    false
15 i=2 & j=6
    false
16 i=2 & j=7
    data[7] > data[8] : swap

| | | | | | | 14 | 40 | 30 | 63 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

17 i=3 & j=8
    data[8] > data[9] : swap

| | | | | | | | 30 | 40 | 63 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

18 i=3 & j=1
    data[1] > data[2] : swap

| 7 | 10 | 22 | 12 | 25 | 35 | 40 | 14 | 30 | 63 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

19 i=3 & j=2
    false
20 i=3 & j=3
    data[3] > data[4] : swap

| 7 | 10 | 12 | 22 | 25 | 35 | 40 | 14 | 30 | 63 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

21 i=3 & j=4
    false
22 i=3 & j=5
    false
23 i=3 & j=6
    false
24 i=3 & j=7
    swap

| 7 | 10 | 12 | 22 | 25 | 35 | 14 | 40 | 30 | 63 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

25 i=3 & j=8
    swap

| 7 | 10 | 12 | 22 | 25 | 35 | 14 | 30 | 40 | 63 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

26 i=4 & j=1
    false

    ↓ } false

31 i=4 & j=6
    data[6] > data[7] : swap

| | | | | | 14 | 35 | 30 | 40 | 63 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

32 i=4 & j=7
    data[7] > data[8] : swap

| 7 | 10 | 12 | 22 | 25 | 14 | 30 | 35 | 40 | 63 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

33 i=4 & j=8
    false
34 i=5 & j=1
    false

    ↓ } false

38 i=5 & j=5
    swap

| 7 | 10 | 12 | 22 | 14 | 25 | 30 | 35 | 40 | 63 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

39 i=5 & j=6
    false

    ↓ } false

46 i=6 & j=4
    swap

| 7 | 10 | 12 | 14 | 22 | 25 | 30 | 35 | 40 | 63 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

    ↓ } false

0 i=9 & j=9

| 7 | 10 | 12 | 19 | 22 | 25 | 30 | 35 | 40 | 63 |

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