

Difference of Arrays (2 July)

$a_2 =$

|  |   |               |    |              |    |
|--|---|---------------|----|--------------|----|
|  | 6 | <del>11</del> | 16 | <del>6</del> | 13 |
|  | 7 | 2             | 7  | 3            | 8  |

$a_1 =$

|   |   |   |   |
|---|---|---|---|
| 9 | 8 | 5 | 2 |
|---|---|---|---|

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6 2 8 8 6

$a_2 > a_1$

$$a_2 \geq a_1$$

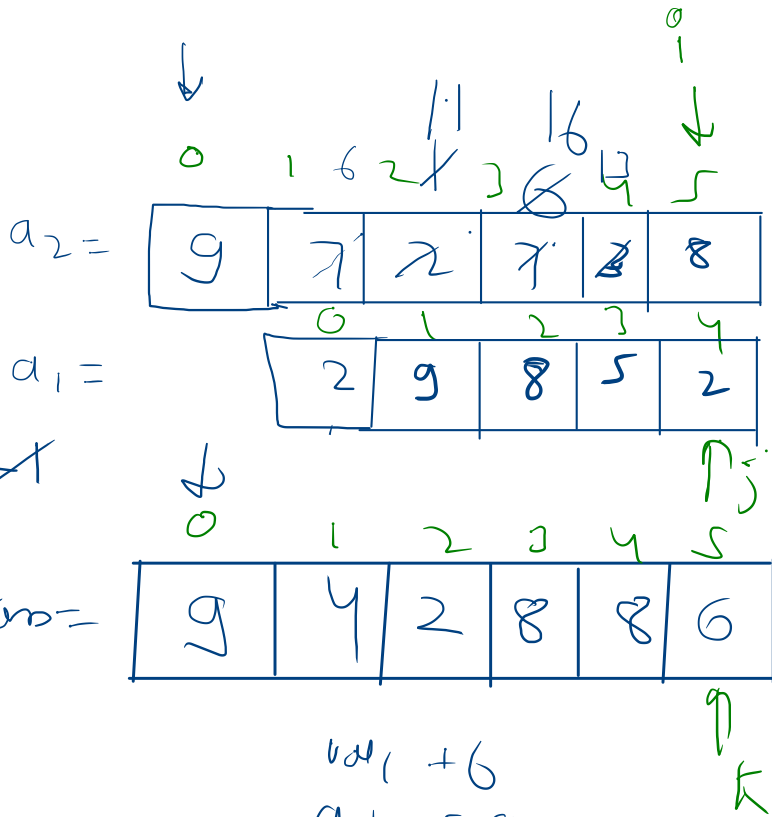
$$\downarrow$$

$$ans + -w]$$

$$b = \cancel{0} \cancel{0} \cancel{1} \cancel{1}$$

$$val_1 = -9$$

$$val_2 = x$$



$$1. a_2[i] + b > a_1[j]$$

$$ans[i] = (val_1 - val_2 + b)$$

$$b = 0$$

$$\Rightarrow 2. a_2[i] + b < a_1[j]$$

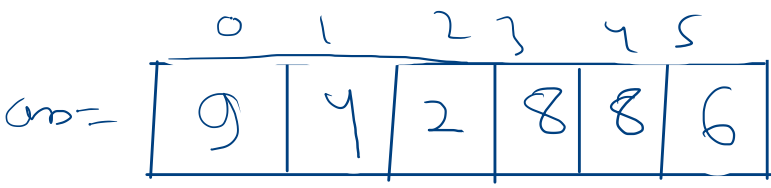
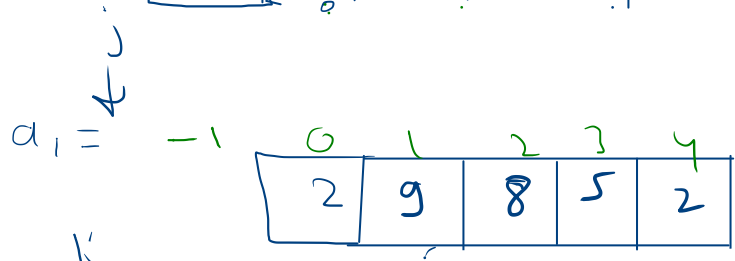
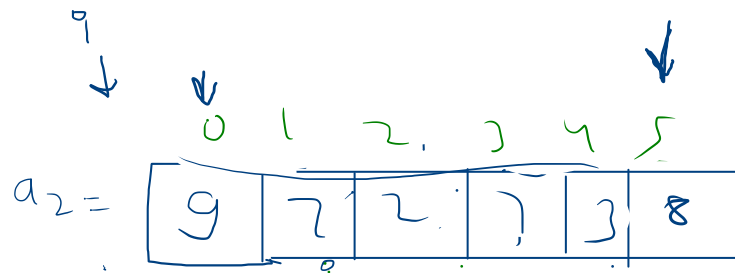
$$ans[k] = (val_1 + 10 - val_2 + b)$$

$$\Rightarrow b = -1$$

$$3. a_1 \rightarrow \text{complete}$$

$$= val_1 + b$$

$$a_2[i] < a_1[j]$$



$b = 0$

~~$b = 0$~~

~~$b = 0$~~

$0$

$val_1 = 9$

$val_2 = 0$

```
while (k >= 0) {
    int val1;
    int val2;
    1 val1 = a2[i];
    if (j >= 0) {
        val2 = a1[j];
    } else {
        2 val2 = 0;
    }
    3 if (val1 + b >= val2) {
        ans[k] = val1 + b - val2;
        b = 0;
    } else {
        4 ans[k] = val1 + b + 10 - val2;
        b = -1;
    }
    5 i--; j--; k--;
}
```

$$9 + (0) \geq 0$$

$$9 \geq 0 \quad \checkmark$$

|   |   |   |   |   |
|---|---|---|---|---|
| 9 | 7 | 6 | 5 | 3 |
|---|---|---|---|---|

|   |   |   |   |   |
|---|---|---|---|---|
| 9 | 7 | 6 | 4 | 2 |
|---|---|---|---|---|

0 0 0 1 1 0 0

↑  
idx

