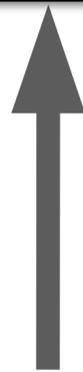
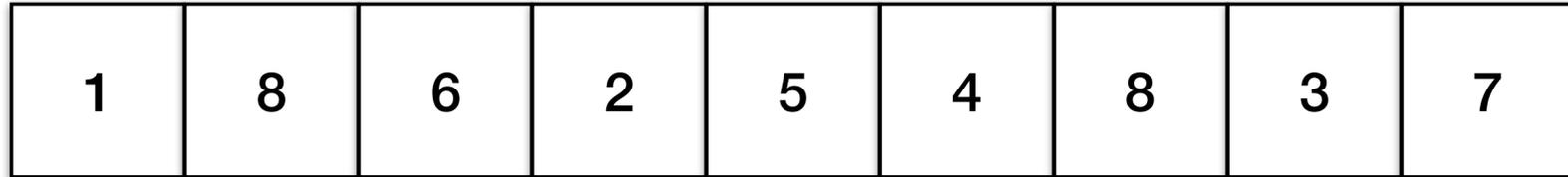
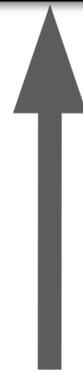


# Container With Most Water - Test Case 1

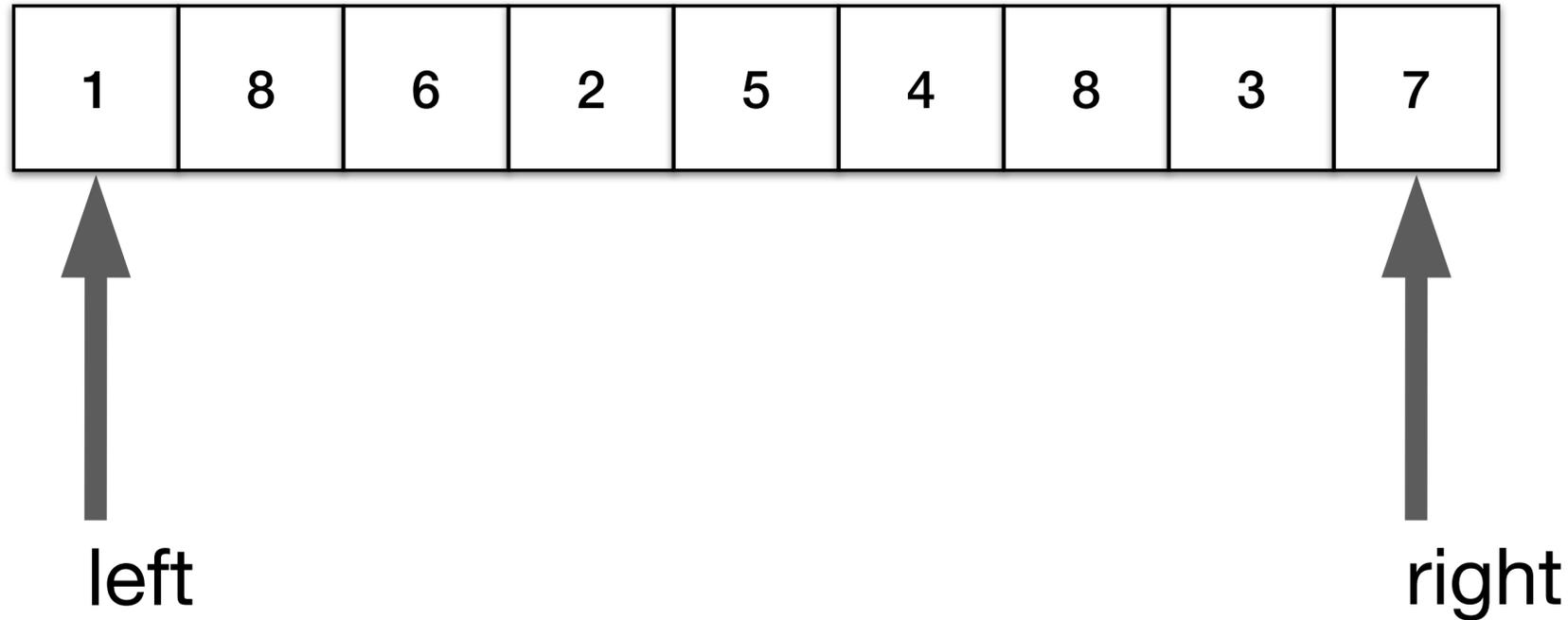


left



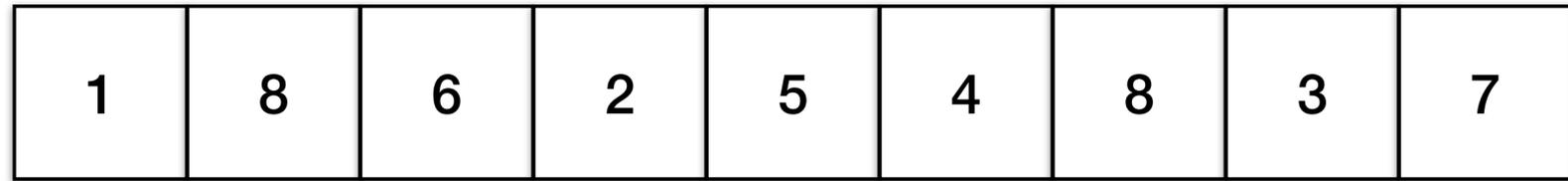
right

## Container With Most Water - Test Case 1



Template :- In the opposite-direction pointer template, we typically consider three scenarios based on how the current sum compares to the target value. However, for this problem, the target-equality scenario does not apply as the target is not given.

## Container With Most Water - Test Case 1



$1 < 7$  (move left pointer)

$$\text{width} = 8 - 0 = 8$$

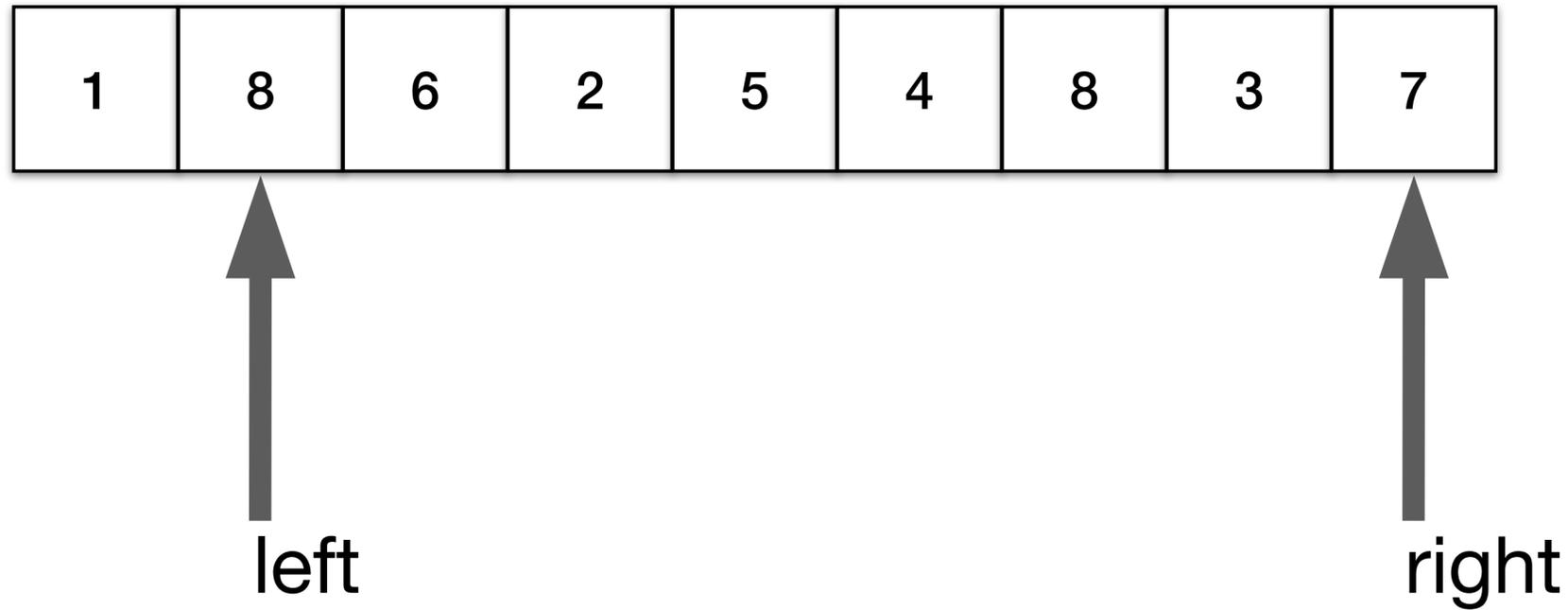
$$\text{height} = \min(1, 7) = 1$$

$$\text{area} = \text{width} * \text{height} = 8 * 1 = 8$$

left

right

## Container With Most Water - Test Case 1



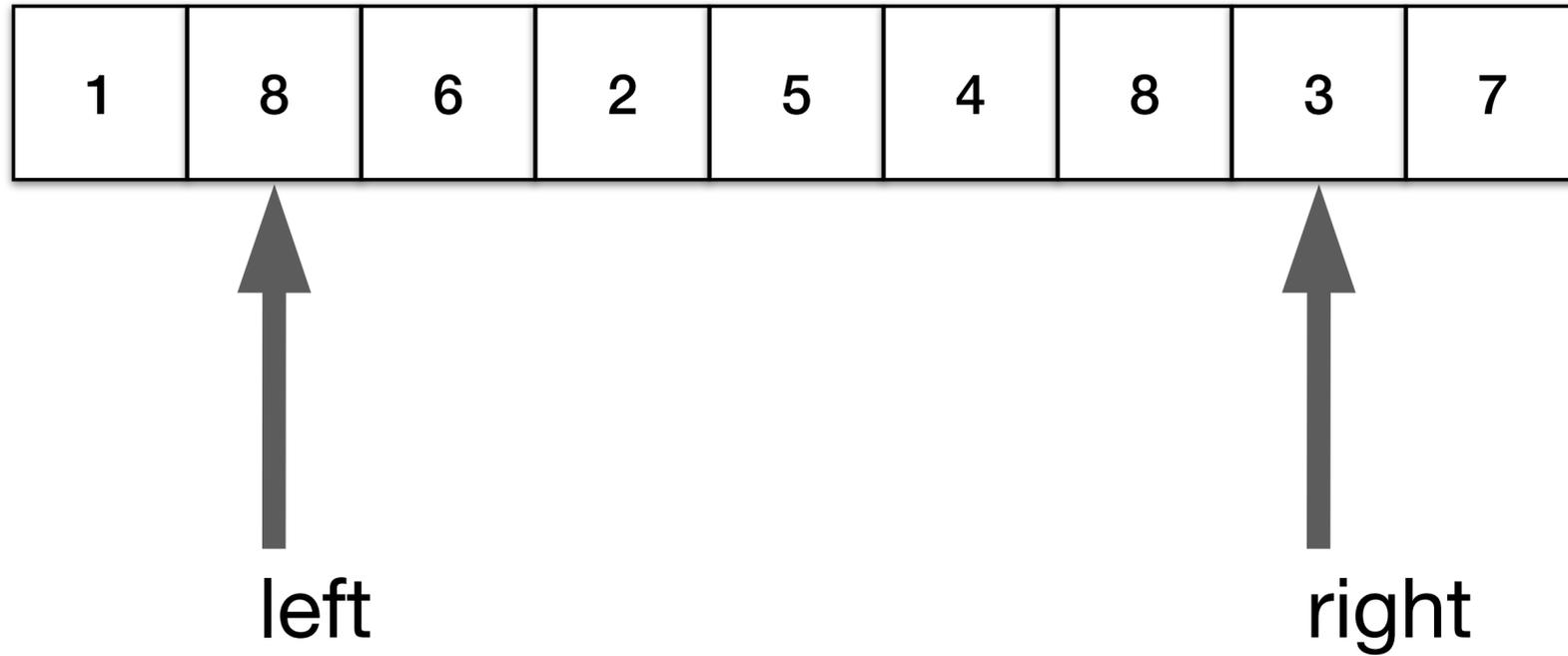
$8 > 7$  (move right pointer)

$\text{width} = 8 - 1 = 7$

$\text{height} = \min(8, 7) = 7$

$\text{area} = \text{width} * \text{height} = 7 * 7 = 49$

## Container With Most Water - Test Case 1



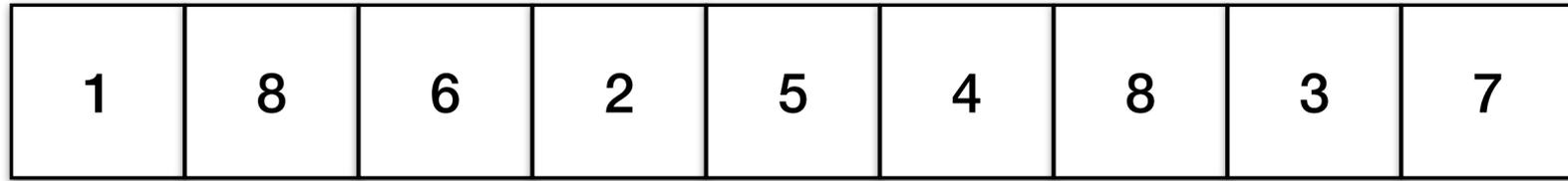
$8 > 3$  (move right pointer)

$\text{width} = 7 - 1 = 6$

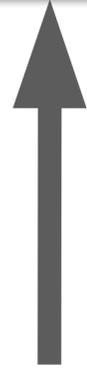
$\text{height} = \min(8, 3) = 3$

$\text{area} = \text{width} * \text{height} = 6 * 3 = 18$

## Container With Most Water - Test Case 1



left



right

$8 == 8$  (move right pointer as else condition)

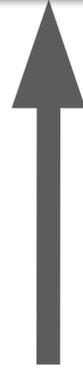
$\text{width} = 6 - 1 = 5$

$\text{height} = \min(8, 8) = 8$

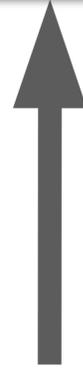
$\text{area} = \text{width} * \text{height} = 5 * 8 = 40$

## Container With Most Water - Test Case 1

1	8	6	2	5	4	8	3	7
---	---	---	---	---	---	---	---	---



left



right

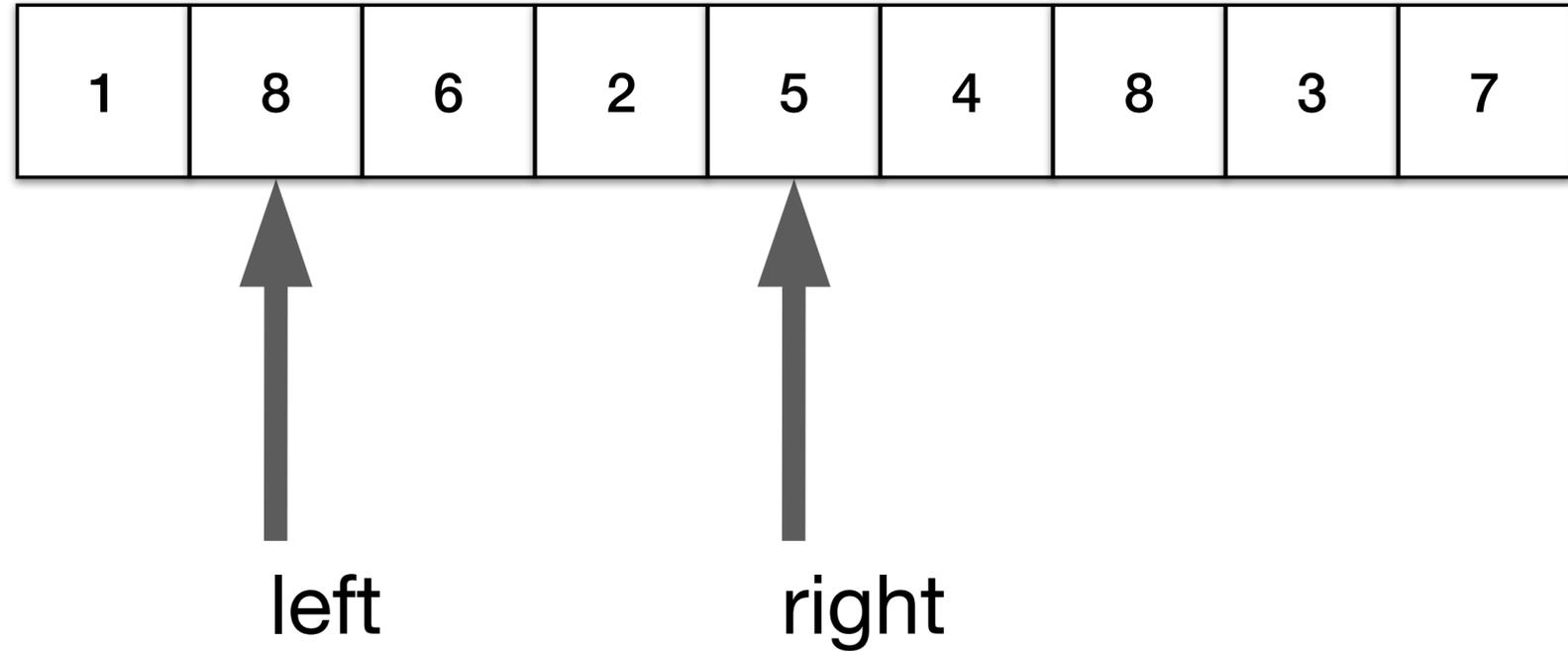
$8 > 4$  (move right pointer)

$\text{width} = 5 - 1 = 4$

$\text{height} = \min(8, 4) = 4$

$\text{area} = \text{width} * \text{height} = 4 * 4 = 16$

## Container With Most Water - Test Case 1



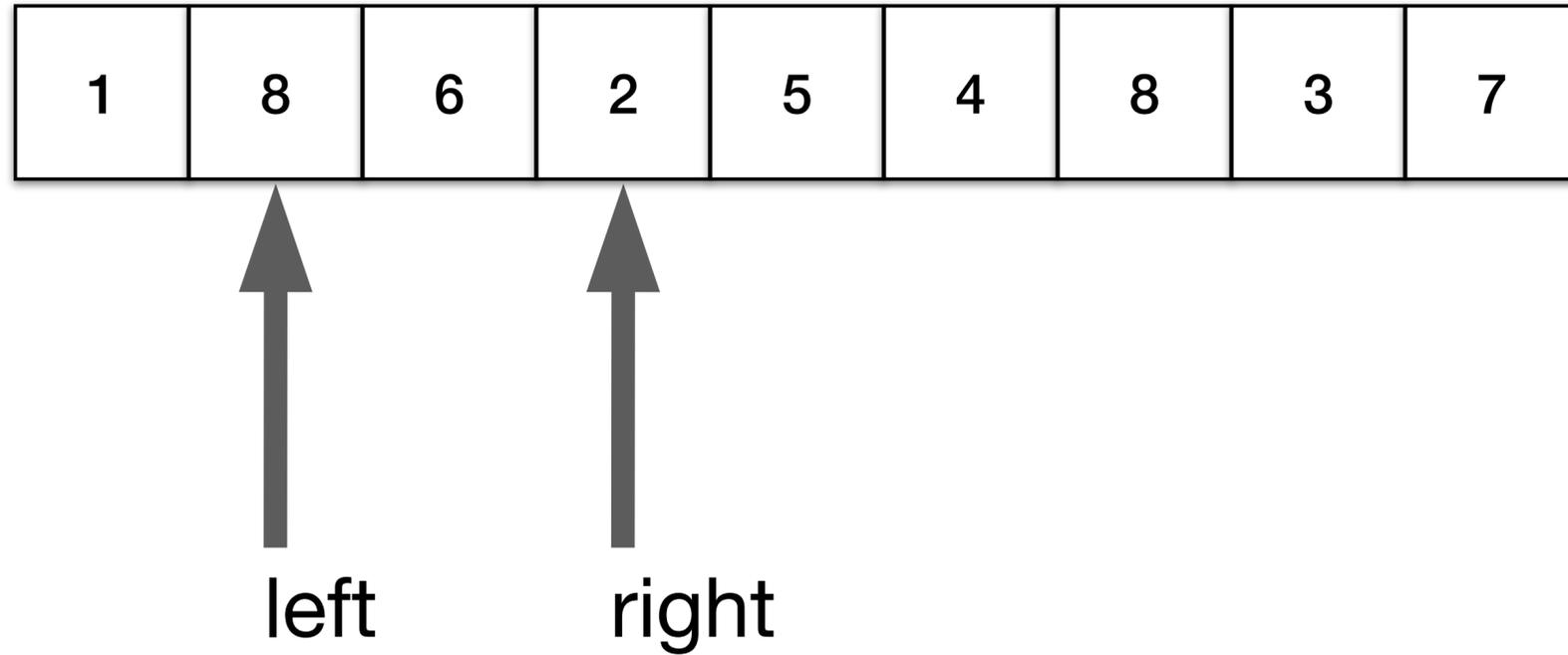
$8 > 5$  (move right pointer)

$$\text{width} = 4 - 1 = 3$$

$$\text{height} = \min(8, 5) = 5$$

$$\text{area} = \text{width} * \text{height} = 3 * 5 = 15$$

## Container With Most Water - Test Case 1



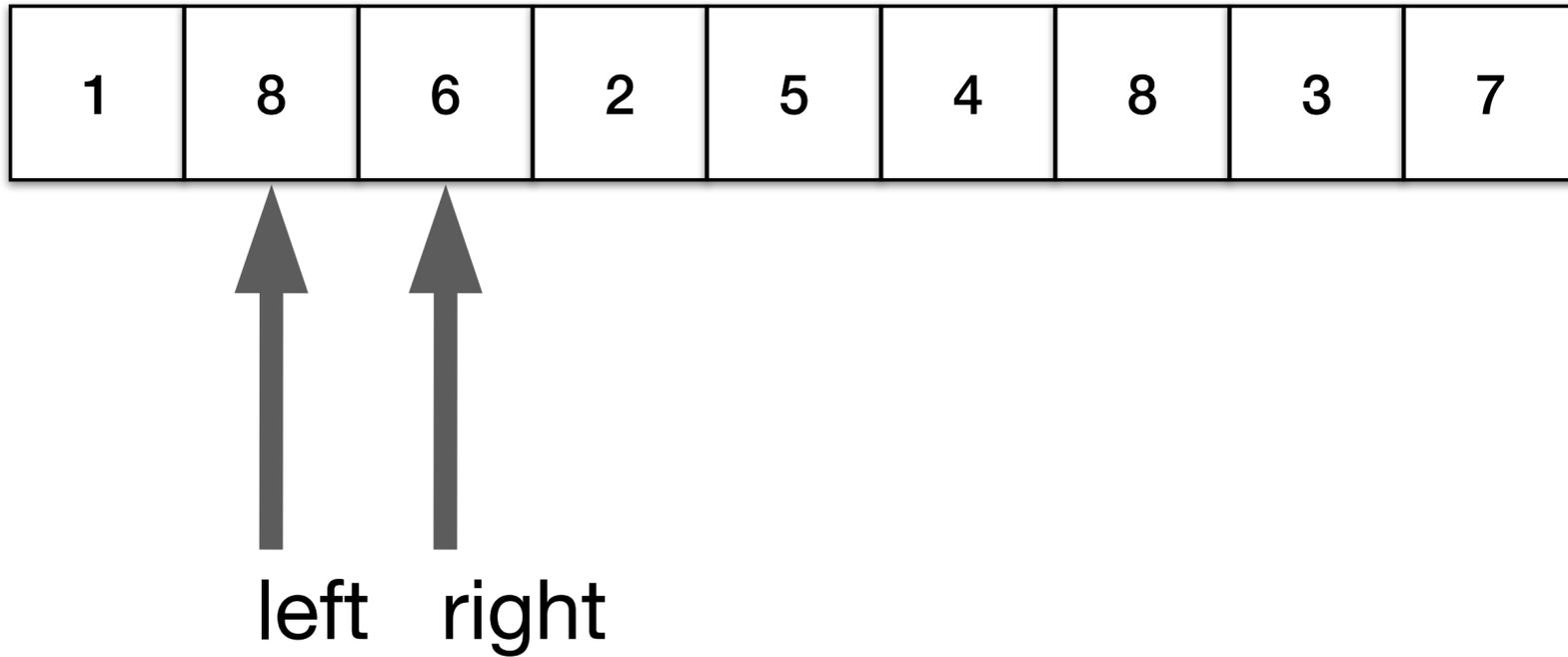
$8 < 2$  (move right pointer)

$\text{width} = 3 - 1 = 2$

$\text{height} = \min(8, 2) = 2$

$\text{area} = \text{width} * \text{height} = 2 * 2 = 4$

## Container With Most Water - Test Case 1



$$8 < 6$$

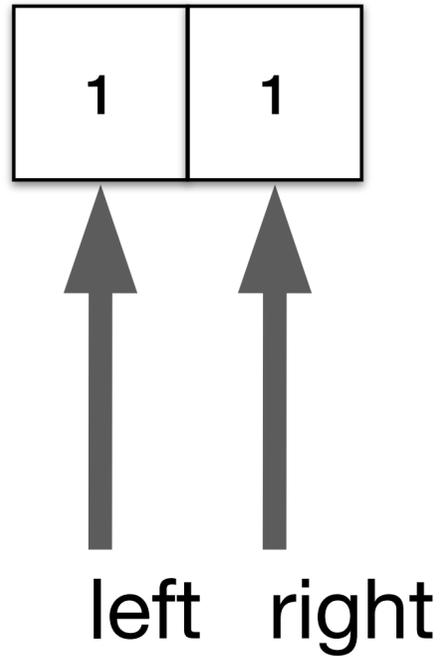
$$\text{width} = 2 - 1 = 1$$

$$\text{height} = \min(8, 6) = 6$$

$$\text{area} = \text{width} * \text{height} = 1 * 6 = 6$$

$$\text{MaxArea} = \max(8, 49, 18, 40) = 49, \max(16, 15, 4, 6) = 49$$

## Container With Most Water - Test Case 2



$$1 == 1$$

$$\text{width} = 1 - 0 = 1$$

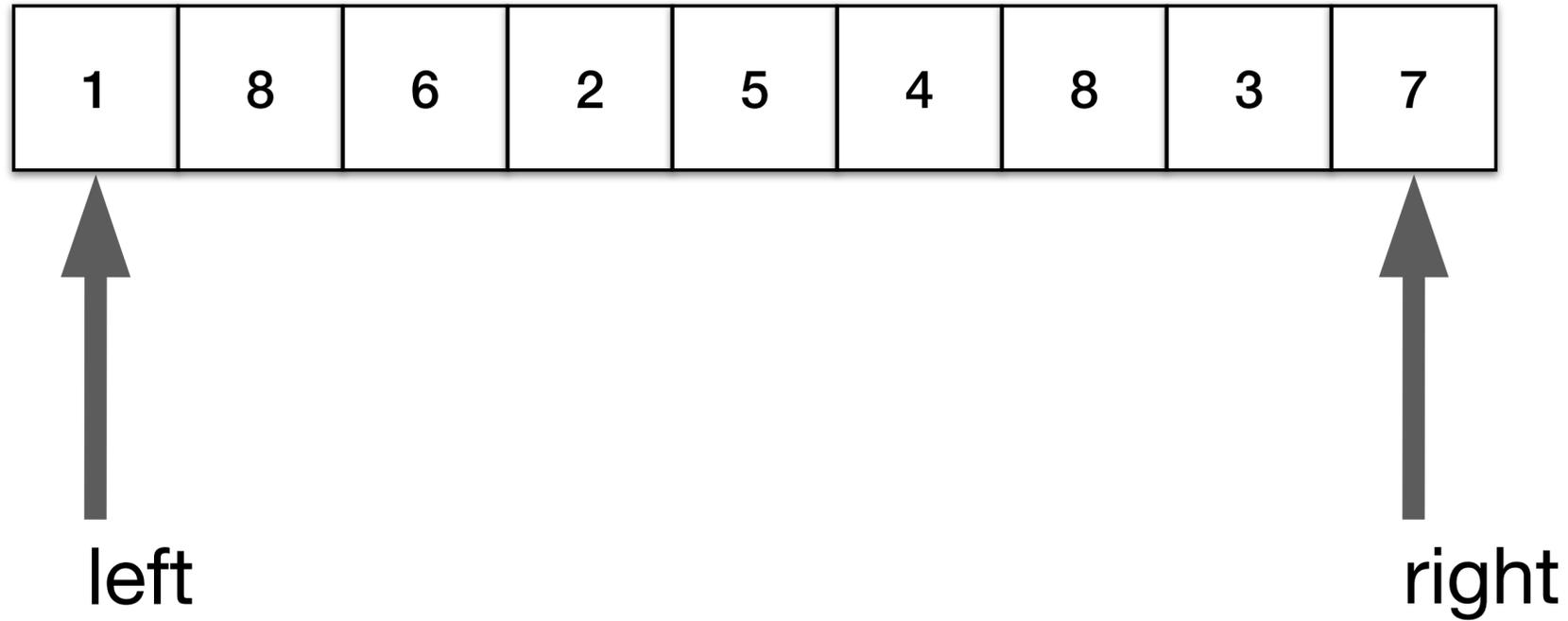
$$\text{height} = \min(1, 1) = 1$$

$$\text{area} = \text{width} * \text{height} = 1 * 1 = 1$$

$$\text{MaxArea} = \max(1) = 1$$

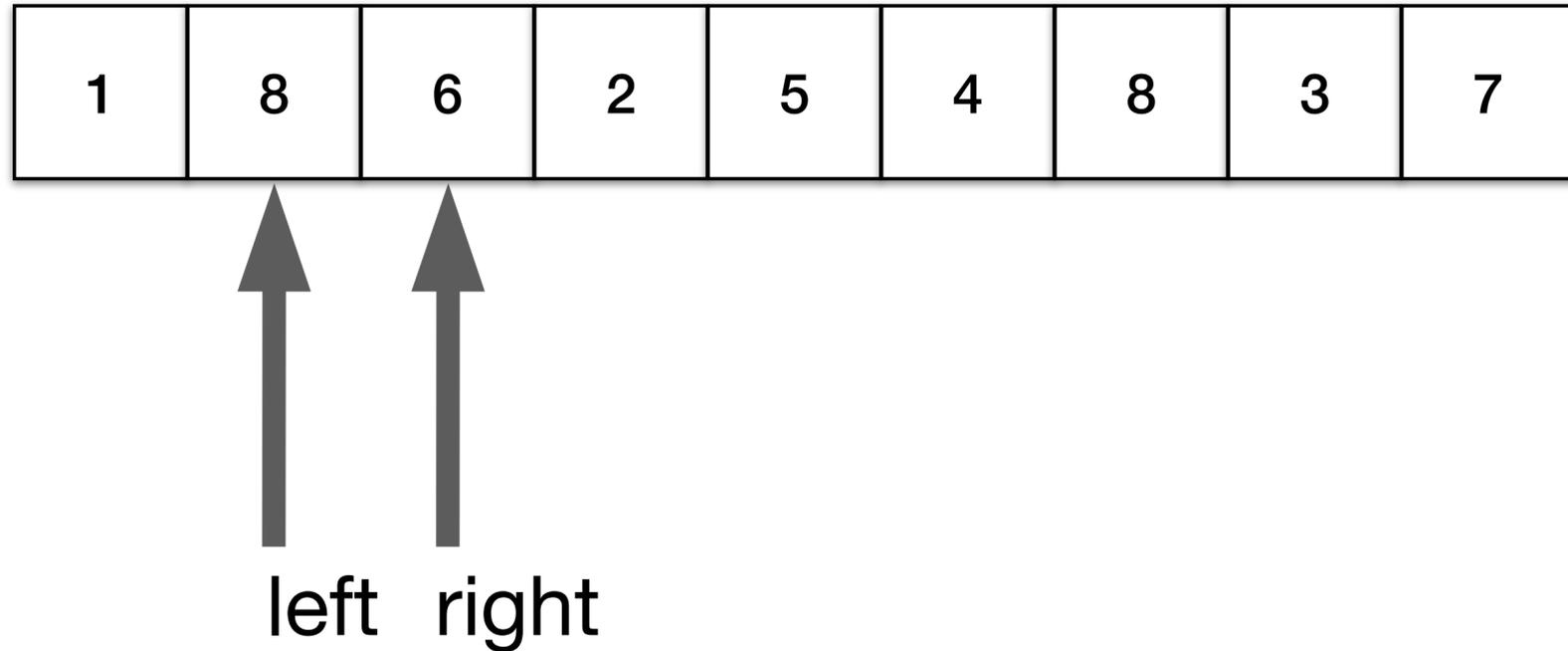
# Dynamic Parameters

## Step 1 :- Template Implementation



No sorting required and we need to remove equality check scenarios from the opposite direction pointers template.

## Step 2 : -I/O parameters



$$4 < 8$$

$$\text{width} = 6 - 5 = 1$$

$$\text{height} = \min(4, 8) = 4$$

$$\text{area} = \text{width} * \text{height} = 1 * 4 = 4$$

$$\text{MaxArea} = \max(8, 49, 18, 40) = 49$$

$$\text{param1} = \text{height}[\text{left}]$$

$$\text{param2} = \text{height}[\text{right}]$$

$$\text{width} = j - i$$

$$\text{height} = \min(\text{height}[\text{left}], \text{height}[\text{right}])$$

$$\text{area} = \text{width} * \text{height}$$

$$\text{Output} = \text{MaxArea} = \max(\text{area})$$