

1. In Bubble Sort, how are elements compared and sorted?

- A. By comparing adjacent elements and swapping if necessary
- B. By selecting the smallest element and moving it to the start
- C. By dividing the list into two halves and sorting each half
- D. By moving the largest element to the end in each iteration

2. In Python, how can Bubble Sort be improved to stop early if the array is already sorted?

- A. Using a break statement when no swaps occur in an iteration
- B. Decreasing the number of iterations by half
- C. Sorting the array in reverse order first
- D. Using a different sorting algorithm

3. What is the space complexity of Bubble Sort?

- A. $O(n)$
- B. $O(n \log n)$
- C. $O(n^2)$
- D. $O(1)$

4. How many times does the outer loop of Bubble Sort run for an array of size 'n'?

- A. n
- B. n-1
- C. n/2
- D. 2n

5. For the given bubble sort algorithm:

If we want to sort the elements ["apple", "banana", "orange", "kiwi"], what should be the value of blank?

```
for i in range(size-1):
    swapped = False
    for j in range(blank):
        if elements[j] > elements[j+1]:
            tmp = elements[j]
            elements[j] = elements[j+1]
            elements[j+1] = tmp
            swapped = True

    if not swapped:
        break
```

- A. Size-1-i
- B. size-i
- C. size
- D. i