

1. What is the time complexity of the Bubble Sort algorithm in the worst case?
  - A.  $O(n)$
  - B.  $O(n \log n)$
  - C.  $O(n^2)$
  - D.  $O(2^n)$
  
2. What happens to the largest element in the array after the first complete iteration of Bubble Sort?
  - A. It moves to the first position
  - B. It remains in its original position
  - C. It moves to the last position
  - D. Its position is randomized
  
3. Which of the following scenarios can Bubble Sort handle efficiently?
  - A. Sorting very large datasets
  - B. Sorting nearly sorted datasets
  - C. Sorting datasets with a lot of duplicate values
  - D. Sorting datasets with complex custom compare functions
  
4. In the Bubble Sort algorithm, how many comparisons does the outer loop typically perform for an array of size 'n'?
  - A.  $n$
  - B.  $n-1$
  - C.  $n^2$
  - D.  $n/2$
  
5. For the given bubble sort algorithm:

If we want to sort the elements [5,56,3,65,2,1], what should be the value of blank?

```

def bubble_sort(elements):
    size = len(elements)

    for i in range(size-1):
        swapped = False
        for j in range(size-1-i):
            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-1
- C. size
- D. 1