



What is the **space** complexity of **Bubble Sort**?

Algorithms




What is the **average** **time** complexity of **Bubble Sort**?

Algorithms



What is the **best** **time** complexity of **Bubble Sort**?

Algorithms




What is the **worst** **time** complexity of **Bubble Sort**?

Algorithms



What is the **Bubble Sort**?


Algorithms



What sorting algorithm does this describe?


Iterate through all elements, swap neighbors if wrong order, repeat until fully sorted.

Algorithms




What is the **time** complexity of a **dynamic array** **deletion**?

Algorithms




What is the **amortized** **time** complexity of a **hash table** **insert**?

Algorithms



What is the **worst** **time** complexity of a **hash table** **insert**?

Algorithms



What is the **time** complexity to **search** a **binary heap** datastructure?

Algorithms

ANSWER

$O(n^2)$

AKA: Quadratic

ANSWER

$O(1)$

(It sorts in place)

AKA: Constant

ANSWER

$O(n^2)$

AKA: Quadratic

ANSWER

$O(n)$

AKA: Linear

Only if the data is already sorted

ANSWER

Bubble Sort

ANSWER

Iterate through all elements,
swap neighbors if wrong order,
repeat until fully sorted.

ANSWER

$O(1)$

AKA: Constant

ANSWER

$O(n)$

AKA: Linear

ANSWER

$O(n)$

ANSWER

$O(n)$

AKA: Linear

What is the **space** complexity of **Heap Sort**?

Algorithms

What is the **average time** complexity of **Heap Sort**?

Algorithms

What is the **best time** complexity of **Heap Sort**?

Algorithms

What is the **worst time** complexity of **Heap Sort**?

Algorithms

What is the term for an algorithm that has uses multiple other algorithms to solve a problem?

Algorithms

What is a **hybrid algorithm**?

Algorithms

For insertion sort, what is the space complexity?

Algorithms

For **insertion sort**, what is the **best time** complexity?

Algorithms

For **insertion sort**, what is the **average time** complexity?

Algorithms

For **insertion sort**, what is the **worst time** complexity?

Algorithms

ANSWER

$O(n \log n)$

AKA: Linearithmic

ANSWER

$O(1)$

(It sorts in place)

AKA: Constant

ANSWER

$O(n \log n)$

AKA: Linearithmic

ANSWER

$O(n \log n)$

AKA: Linearithmic

ANSWER

An algorithm that uses multiple other algorithms to solve a problem.

ANSWER

A hybrid algorithm.

ANSWER

$O(n)$

AKA: Linear

ANSWER

$O(1)$

(It's sorted in-place)

AKA: Constant

ANSWER

$O(n^2)$

AKA: Quadratic

ANSWER

$O(n^2)$

AKA: Quadratic

What **sort** algorithm traverses the search space and inserts elements into the correct sorted location?

Algorithms

What is the **space** complexity of **Introsort**?

Algorithms

What is the **average time** complexity of **Introsort**?

Algorithms

What is the **best time** complexity of **Introsort**?

Algorithms

What is the **worst time** complexity of **Introsort**?

Algorithms

What sorting algorithm involves:

- Quick Sort
- Heap Sort
- Insertion Sort

Algorithms

What sub-**algorithms** does **introsort** use? And in what **order**?

Algorithms

What is the **space complexity** of **Merge Sort**?

Algorithms

What is the **time complexity** of **Merge Sort**?

Algorithms

What **sort** algorithm divides the sorting space and merged them back together?

Algorithms

$O(\log n)$

AKA: Logarithmic

Insertion Sort

$O(n \log n)$

AKA: Linearithmic

$O(n \log n)$

AKA: Linearithmic

Introsort

$O(n \log n)$

$O(n)$


AKA: Linear

- Quick Sort
- Heap Sort
- Insertion Sort

Merge Sort


$O(n \log n)$

AKA: Linearithmic



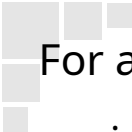
For sorting algorithms,
what does the term
stable sort mean?

Algorithms



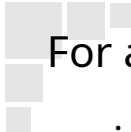
What datastructure
is good for storing
word trees?

Algorithms




For a binary heap,
given a node at index i ,
what index will its
left child be?

Algorithms




For a binary heap,
given a node at index i ,
what index will its
right child be?

Algorithms




For a binary heap,
given a node at index i ,
what index will its
parent be?

Algorithms




For a binary heap,
what is the
time complexity
to **remove** the **root**?

Algorithms



For a binary heap,
what is the
time complexity
to **insert**?

Algorithms



For a binary search,
what is the
time complexity
to **search**?

Algorithms

A trie

It means the algorithm will maintain the same post-sort order for elements that compare as equal.

$$i \times 2 + 2$$

$$i \times 2 + 1$$

$$O(\log n)$$

$$(i - 1)/2$$

AKA: Linearithmic

Assumes integer index with division flooring

$$O(\log n)$$

$$O(\log n)$$

AKA: Logarithmic