

What is the final Big-O?

$$O(m^2 + 2m)$$

Algorithms

What is the final Big-O?

$$O(n + n \log n + 2m)$$

Algorithms

What is the final Big-O?

$$O(n^2 + 2n + m)$$

Algorithms

What is the final Big-O?

$$O(n + n + n)$$

Algorithms

Which is Big-O is larger?

$$O(n)$$

or

$$O(2^n)$$

Algorithms

Which is Big-O is larger?

$$O(1)$$

or

$$O(n)$$

Algorithms

Which is Big-O is larger?

$$O(n^2)$$

or

$$O(n \log n)$$

Algorithms

Which is Big-O is larger?

$$O(n!)$$

or

$$O(2^n)$$

Algorithms

Which is Big-O is larger?

$$O(n)$$

or

$$O(\log n)$$

Algorithms

Which is Big-O is larger?

$$O(\log n!)$$

or

$$O(n \log n)$$

Algorithms

ANSWER

$$O(n \log n + m)$$

Only keep the most significant

ANSWER

$$O(m^2)$$

Only keep the most significant

ANSWER

$$O(n)$$

(Remove duplicate terms  
and constant multiplies)

AKA: Linear

ANSWER

$$O(n^2 + m)$$

Only keep the most significant

ANSWER

$$O(n)$$

AKA: Linear

ANSWER

$$O(2^n)$$

AKA: Exponential

ANSWER

$$O(n!)$$

AKA: Factorial

ANSWER

$$O(n^2)$$

AKA: Loglinear

ANSWER

They are the same.

ANSWER

$$O(n)$$

AKA: Linear

Which is Big-O is larger?

$$O(n^2)$$

or

$$O(2^n)$$

Algorithms

Which is Big-O is larger?

$$O(n \log n)$$

or

$$O(n)$$

Algorithms

In Big-O Notation,

What is the name for  
the notation,

$$O(1)$$

Algorithms

In Big-O Notation,

What is the name for  
the notation,

$$O(\log \log n)$$

Algorithms

In Big-O Notation,

What is the name for  
the notation,

$$O(\log n)$$

Algorithms

In Big-O Notation,

What is the name for  
the notation,

$$O(n!)$$

Algorithms

In Big-O Notation,

What is the name for  
the notation,

$$O(n)$$

Algorithms

In Big-O Notation,

What is the name for  
the notation,

$$O(n^2)$$

Algorithms

In Big-O Notation,

What is the name for  
the notation,

$$O(n^c)$$

Algorithms

What is the final  
Big-O?

$$O(n + n)$$

Algorithms

ANSWER

$O(n \log n)$

AKA: Linearithmic

ANSWER

$O(2^n)$

AKA: Exponential

ANSWER

Double logarithmic

ANSWER

Constant

ANSWER

Factorial

ANSWER

Logarithmic

ANSWER

Quadratic

ANSWER

Linear

ANSWER

$O(n)$

Remove duplicate terms and  
constant multiplies

ANSWER

Polynomial  
or  
Algebraic

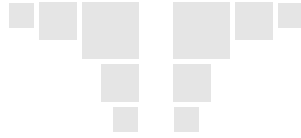


What is the final Big-O?

**$O(3n + m)$**

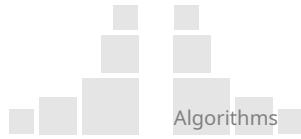


Algorithms



What is the final Big-O?

**$O(m \times n)$**



Algorithms



ANSWER

$$O(m \times n)$$

No change

ANSWER

$$O(n + m)$$

Remove duplicate terms  
and constant multiplies