Big-O

7 questions

1 point

1.

Introduction and Learning Outcomes

The goal of this assignment is to practice with big-O notation.

Recall that we write $f(n) = O(g(n))$ to express the fact that $f(n)$ grows no faster than $g(n)$: there exist constants N and $c > 0$ so that for all $n \geq N$, $f(n) \leq c \cdot g(n)$.

Is it true that $\log_2 n = O(n^2)$?

- Yes
- No

1 point

2.

$n \log_2 n = O(n)$

- Yes
- No

1

point

3.
$n^2 = O(n^3)$

- Yes
- No

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1 point

4.
$n = O(\sqrt{n})$

- Yes
- No

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1 point

5.
$5^{\log_2 n} = O(n^2)$

- Yes
- No

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1 point

6.
$n^5 = O(2^{3 \log_2 n})$

- Yes
- No

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1 point

7.
$2^n = O(2^{n+1})$

- Yes
- No

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