

# Game Theory and Greedy Algorithms for Interview Preparation

# Game Theory

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- A. True
- B. False

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Given a heap with  $N$  sticks in it. A player can pick only 1 or 2 sticks at a time. The last person to pick any stick will win.

What is the condition to check if we will win on starting with  $N$  sticks?

- A.  $N$  should be divisible by 3
- B.  $N$  should not be divisible by 3
- C.  $N$  should be divisible by 2
- D.  $N$  should not be divisible by 2

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A losing state is a state from which the current player will always lose no matter what move he makes, and opponent play optimally.

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What should be the xor sum of a nim game to say current position is winning position?

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- C. Equal to size of heap
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That's all!