Break & Quiz

Q 1.1: Which of the following is **false**

- A. The set of mixed strategies includes pure strategies.
- B. A game can be sequential but have imperfect information.
- C. A game may not have any dominating strategies.
- D. All finite two player games have pure Nash equilibria.

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- **D. All finite two player games have pure Nash equilibria.**

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Q 1.1: Which of the following is **false**

- A. The set of mixed strategies includes pure strategies. (Yes: deterministic is a subset of random---such strategies have all the probability mass on one outcome.)
- B. A game can be sequential but have imperfect information. (As discussed, battleship is an example.)
- C. A game may not have any dominating strategies. (R/P/S).
- **D. All finite two player games have pure Nash equilibria.** (This is false---they all have mixed equilibria, but not necessarily pure.)

Break & Quiz

Q 2.1: We are playing a game where Player A goes first and has 4 moves. Player B goes next and has 3 moves. Player A goes next and has 2 moves. Player B then has one move.

How many nodes are there in the minimax tree, including termination nodes (leaves)?

- A. 23
- B. 65
- C. 41
- D. 2

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How many nodes are there in the minimax tree, including termination nodes (leaves)?

- A. 23
- **B. 65** (1 + 4 + 4*3 + 4*3*2 + 4*3*2 = 65. Note the root and leaf nodes.)
- C. 41
- D. 2

Break & Quiz

Q 2.2: During minimax tree search, must we examine every node?

- A. Always
- B. Sometimes
- C. Never

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Q 2.2: During minimax tree search, must we examine every node?

- A. Always (No: consider layer *k*, where we take the max of all the mins of its children at layer *k+1*. If the current value of a min node at *k+1* already smaller than the current max, we don't need to continue the minimization.)
- **B. Sometimes**
- C. Never (No: the event above may simply not happen).