NBA Playoff Contention: Solution Concept

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- The `league.py` file provides the class definitions of `match` and `league`.

  In the class `league`, various functions are defined which can be used to calculate relevant statistics, such as the win percentage in division and conference, etc. These functions are used to define a `tie_breaker()` function that determines the winner of two teams based on the tie-breaking procedures provided.

- The `elimination.py` file imports data, instantiate the `league` class and obtains the elimination dates.

- The way to check for elimination is by considering the best possible records for the remainder of the games. If a team still could not achieve a higher win percentage than the 8^{th} place team under the best-case scenario, then we consider it eliminated for playoff contention. The procedure is as follows:

  1. When a game is played, check every team (call it team A) and compare its records with the team that is currently at 8^{th} place (call it team B) in the same conference. If team A could not have more wins than team B, given that team A wins all its remaining teams and team B loses all its remaining teams, then we consider team A dangerous.
  2. Simulate the rest of the games such that team A wins all and team b loses all.
  3. Apply the tie-breaking procedure defined in `league.py`. If team A loses, then it is eliminated.

- The current tie-breaking procedures only compare the team of interest and the team at 8^{th} of the conference. But in fact, they could form tie with the 7^{th} place, or even more. Therefore, the tie-breaking procedure can be extended in a similar way to accommodate more than 2 teams at tie.