



Problem 2: Determining the earliest a team has been eliminated

This problem is complex largely due to the amount of different things that need to be kept in mind. As such, we decided to approach this problem greedily, with the following heuristics.

Take a team, and call it A. Now, to determine whether this team has been eliminated yet, we simulate the rest of the season using the following heuristics, that combine to cover all cases. We go down this list in order and interrupt upon one of these cases matching.

1. Any game involving 2 teams from the other conference are irrelevant. We can assign wins/losses arbitrarily.
2. Any game involving team A are always a win for team A.
3. If the game is inter-conference, assign the win to the team from the other conference.
4. Sort the teams by losses in ascending order. If the game is between one team that is below A and one team that is above, then assign the win to the team with more losses than A. As team A can win all remaining games, it will be guaranteed to finish above any team below A.
5. Now sort the teams by wins in descending order. If the game is between 2 teams ranked above team A, then assign the win to the team with more wins. If both teams would be in the playoffs, then it would be easier to pass the team with less wins.

Now, after simulating the entire season, we then run through the tiebreakers.

One difficulty we ran into is that it was very hard to find a source of canonical truth. For example, it was easy to verify that the teams that made playoffs did. Another team that we could verify was the Miami Heat, which was very close to making the playoffs.