NHL Draft Order Based on Mathematical Elimination

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Abstract

The NHL determines draft order from a lottery that favors teams that are lowest in the standings. Losing can help a franchise acquire a coveted prospect, which encourages fans to cheer against their favorite teams. Draft order based on mathematical elimination would force the teams that performed poorest into a highly competitive atmosphere. The teams that are eliminated earliest would instead have more games to earn the top picks. If substandard teams are to survive in mediocre markets, the injustice of incentives for losing must be eradicated.

KEYWORDS: mathematical elimination, NHL, hockey, draft order, draft, draft lottery

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1 Background

The National Hockey League (NHL) considers the reverse standings and conducts a draft lottery to determine the final draft order. The NFL, NBA, and MLB all have draft order calculated based on reverse standings, but for this paper, the NHL is reviewed.

There are 30 teams in the National Hockey League. The Eastern and Western Conferences partition the franchises into two sets of fifteen teams. In each conference, there are three divisions with five teams per division. The highest ranking team from each division is awarded a playoff spot. Five additional teams in each conference are awarded a wild-card playoff position. Sixteen teams make the playoffs and fourteen do not.

In 2009, all fourteen of the teams that were not in the playoffs were represented with lottery balls weighted based on predefined numbers. If a team's lottery ball is selected, that franchise's draft position will increase by a maximum of four positions. For example, if the 25th team wins the lottery, they move up four spots to draft second overall. The probabilities that one of the bottom five teams with a chance at drafting first overall wins the lottery, are identified in Table 1. The column headers identify the rank of the team, with the 30th team being the team with the worst record. The probability underneath the rank is the likelihood that the paired team wins the NHL Draft Lottery. Each probability of selection is approximately 75% of the previous team's chance. All of these probabilities were arbitrarily chosen by the NHL.

Table 1: 2009 NHL Entry Draft Lottery Probabilities: First Overall Pick

Rank	30th	29th	28th	27th	26th
Probability	25.0%	18.8%	14.2%	10.7%	8.1%
1st Overall	48.2%	18.8%	14.2%	10.7%	8.1%

Table 2: 2009 NHL Entry Draft Lottery Probabilities: Non-Playoff Teams

Rank	25th	24th	23rd	22nd	21st	20th	19th	18th	17th
Probability	6.2%	4.7%	3.6%	2.7%	2.1%	1.5%	1.1%	0.8%	0.5%
1st Overall	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

If a team outside of the bottom five wins the Draft Lottery, then the team ranked 30th will select first overall. This means that the likelihood that the team with the worst regular season record drafts first overall is the cumulative probabilities of selection for the 30th team and the 25th through 17th ranked teams. Table 2 represents the likelihoods that a non-playoff team without a chance at the first overall pick, wins the NHL Entry Draft Lottery. The statistics are biased and do not reflect the proportions of the final standings.

2   Proposed NHL Entry Draft Formula

Draft order based on reverse standings (or a lottery thereof) can encourage fans to cheer against their favorite team for a higher draft pick. A formula based on winning could shatter the emotions that trigger fans to cheer against their favorite teams. There exists a cure to the phenomenon that causes fans to cheer against their favorite teams while providing franchises that need the most help the opportunity to acquire the highest draft picks.

The order for the NHL Entry Draft should be determined based on how teams perform after becoming mathematically eliminated from playoff contention. In many respects, the season does not conclude after the regularly scheduled games have been played, but rather when championship achievement becomes unobtainable. After a team becomes mathematically eliminated from playoff contention, the risk of winning games, thereby losing position in the NHL Entry Draft Lottery, becomes a significant factor. Teams that underperform and are eliminated earliest would play more games between the date of elimination and the conclusion of the regular season. This handicap gives those clubs the greater opportunity to earn a higher draft pick.

A team becomes mathematically eliminated from playoff contention when no combination of wins or losses allows the team to achieve a rank that would be high enough to qualify for the playoffs. To quantify the games that were most influential in determining draft order, the formula for mathematical elimination, along with the most recent two NHL seasons, are presented in the Appendix. (The structure for the playoffs and standings for the current 2009-10 season is identical to the 2008-09 and 2007-08 NHL seasons.)

3   Quantitative Calculations

The formula for mathematical elimination from the 2009-2010 NHL Playoffs is dependent on how teams are ranked in the standings. The National Hockey

League ranks teams based on the number of points teams accumulate throughout the season. Teams receive two points for a win, no points for a regulation loss, and one point for an overtime or a shootout loss. The formula for breaking a tie between two or more teams with an equal number of points can be found in Appendix A.

The formula for when teams are eliminated is based on the NHL's rules for tie breakers and the remaining scheduled games. Teams can become mathematically eliminated based on the pairings of opponents in future contests. One method of determining mathematical elimination is by exhausting all possible outcomes for final season standings. In the NHL, the regular season consists of 82 games for each of the 30 teams, with four outcomes per game: regulation win, regulation loss, overtime/shootout win, and overtime/shootout loss. Exhausting all regular season games yields 4^{1230} unique outcomes from the schedule. In the season's final days, this method of calculation can be trivial. However, in the case of the New York Islanders in the 2008-09 season, there were 200 unresolved contests (2.5822 x 10^{120} possibilities) after the franchise became eliminated. A more elegant calculation is necessary for this scenario.

The season standings can be observed as ordered vector statistics. This set of numbers considers the results of each game for an individual team. These 30 vectors, one for each team, are ordered based on total points, total wins, and other tie breaking data. Advanced calculus techniques are applied to these vectors to determine if a team can achieve a rank of 8th or better and clinch a playoff spot. The objective is to pick a sequence of game outcomes that will force the minimum rank necessary to clinch a playoff spot to be as low as possible. The algorithm described in Appendix B details the directions for calculating mathematical elimination for the 2009-2010 NHL Season.

It should be noted that I could not find a formula for mathematical elimination, which may exist in earlier literature. The algorithm can be tweaked for other sports, depending on their rules. Any errors that may exist in the work are mine alone.

4   Discussion

Determining draft order based on mathematical elimination would liberate fans from the temptation to reject their favorite hockey team, while providing the teams that perform poorest the best chance to obtain the coveted prospects. Through my formula, hockey teams would experience immediate rewards and the advantage of a healthier, enduring market. The fear of a bit-

ter ending is an emotional decision that limits season ticket purchases, game attendance, merchandise sales, and fan support.

It should be noted that my formula would not completely stop fans from cheering against their favorite team. The formula works under the assumption that teams would prefer to make the playoffs rather than obtain the first over-all draft pick. As mathematical elimination approaches, fans could become increasingly unsupportive of their team's success until they become mathematically eliminated or obtain a rank high enough for playoff eligibility. The stretch of games that occurs just before mathematical elimination could become the most psychologically strenuous. The disappointment fans experience watching their team become mathematically eliminated can be overwhelmed by the elation of watching their team compete for a higher draft pick. These are professional teams, and therefore, should be expected to possess a reasonable capability of winning any game during the course of the season. Performance, after it has become known that qualifying for playoff contention is no longer possible, should become the standard for determining draft order.

After the 2007-2008 NHL Season concluded, the Los Angeles Kings and the Tampa Bay Lighting were tied among points for last place. Since the Kings had one more win than the Lightning, Los Angeles was actually ranked higher in the standings. Therefore, the Tampa Bay Lightning had the best chance of winning the NHL Draft Lottery and drafting first overall, which they did. After mathematical elimination, the Lightning had won twice in eight challenges whereas the Kings had won four times in nine contests. This stretch of games was essential in determining draft order, as Los Angeles forfeited the higher probability of winning the NHL Draft Lottery by outperforming Tampa Bay.

From the 2008-2009 NHL Season, the New York Islanders and Tampa Bay Lightning were awarded the first and second overall picks, respectively. They combined for 24 post-elimination games and won just 4 times. Before elimination, the Islanders had a winning percentage of 33.33%, which dropped to 23.08%. Tampa Bay dropped from 32.39% to 9.09%.[1]

At the trade deadline on March 4, 2009, the New York Islanders traded captain and pending free agent Bill Guerin to the Pittsburgh Penguins for a conditional draft pick. After helping the Penguins win the Stanley Cup, that selection became a third-round draft pick. Similarly, Tampa Bay traded away veteran Mark Recchi, retrospectively 14th on the NHL's all time scoring list, at the deadline. In 2007-08, Tampa Bay had also dealt Brad Richards, 2004 Conn Smythe winner (Stanley Cup Playoffs MVP) at the trade deadline. These are examples where fan favorites, veterans, and role players from

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[1]Winning percentage determined as wins divided by games played.

non-playoff teams are traded away or benched in favor of acquiring future considerations and developing players with professional playing time.

Another current event that best exemplifies treatment of veterans occurred with Mats Sundin, formerly of the Toronto Maple Leafs, at the conclusion of the 2007-08 season. The self-declared Torontonian and tenured captain had accumulated over 500 goals and 1300 points, but was ostracized by the masses because he refused to waive his no-trade clause. As a potential unrestricted free agent, fans feared that he would leave the team at the conclusion of the season and the franchise would receive nothing in return. Rumors of potential trade packages that were denied because of Mats' desire to stay a Maple Leaf, initiated waves of anger and outrage throughout Ontario. At the conclusion of the 2007-08 season, Mats Sundin signed with the Vancouver Canucks and retired after the 2008-09 campaign.

A draft formula that lets fans lose interest in their teams yields unaffordable costs. When these calculations were made at the conclusion of the 2008-09 season, the Phoenix Coyotes were anticipated to have earned the second overall draft pick, as opposed to their awarded sixth selection, using the proposed draft formula. The franchise has since been sold to the NHL for $140 million after a Chapter 11 bankruptcy hearing in Glendale, AZ. The Honorable Redfield T. Baum referenced the audited financial statements for the franchise, and reported the "devastating" total loss over five years as $390,676,000. During this period, the Coyotes have never made the NHL playoffs.

In a report produced November 5, 2009, Stephen A. Buser, Ph.D. from The Ohio State University, reported that the losses for the Columbus Blue Jackets ranged from $42.4-$58 million dollars over the most recent four seasons. The losses were declared to be unsustainable. Throughout the ten-year history of the franchise, the Columbus Blue Jackets only made the playoffs once. Their sole appearance was in 2009, where they lost all four games of a best-of-seven series and were swept in the first round. These franchises, and those in similar circumstances, could have found relief with my formula.

The Stanley Cup Playoffs determine the NHL's champion through an enduring stretch of games where the winner must accumulate sixteen wins throughout four best-of-seven game series. It does not matter if there is an injury to a superstar or if one team benefits from a lucky puck bounce. The fact of the matter is, it all comes down to a handful of games that can eliminate a playoff team, or determine a champion. The success of a season can be determined from these contests. If a small sample of games is used to determine the success and failure of a season for playoff teams, it can also be used to evaluate the non-playoff teams.

The theories and formulas presented here can be generalized to ap-

ply to Major League Baseball (MLB), the National Basketball Association (NBA), the National Football League (NFL), and a variety of other professional sports leagues. A recent publication suggests that the NBA's Cleveland Cavaliers may have purposefully handicapped themselves in an attempt to draft LeBron James, an NBA superstar that entered the league in the 2003 draft. The article quotes the Cleveland Cavaliers' ex-head coach, John Lucas. Currently an assistant coach with the Los Angeles Clippers, Lucas claims that "They (Cleveland Cavaliers) trade all our guys away and we go real young, and the goal was to get LeBron and also to sell the team." The NHL isn't the only sport where reverse standing draft orders may be taken advantage of.

The draft formulas used could be custom tailored to the needs of each league. For example, the first overall pick could be the only pick awarded based on post-elimination performance. Draft order could be determined based on date of elimination so that the teams that are eliminated first would receive the first picks and all games thereafter would be played without the risk of losing position in the draft order.

The handicaps that are generated from mathematical elimination formulas should be more accurate in ranking the worst teams than reverse standing draft orders since the incentive to lose becomes minimal. The purpose of the formula is to reduce the decline in performance after mathematical elimination, or render it completely undetectable. The intensity of the final games of the season from teams outside of the playoff picture would ignite healthy competition and rivalries. When two non-playoff teams compete, the winner improves for the long term at the opponent's expense. Although a team is out of playoff contention, it is never too late to win.

5 Conclusion

The National Hockey League (NHL) formula that considers the reverse standings to determine draft order triggers logical reasoning that can destroy emotional attachments and fanaticism, without which hockey teams cannot thrive. Losing can help a franchise acquire a higher draft pick, which encourages fans to cheer against their favorite team. Franchises that endure poor seasonal performance should not accept considerable rejection and departure from supporters. Although the teams with the most losses receive the highest draft picks, the promise of future success by losing in the present creates a false sense of security. This current formula yields the distressing paradox where success and failure become synonymous. The NHL should use my formula to create competitive draft orders and inspire fans with passion and optimism.

2008-2009 NHL Season

Executive Summary

The NY Islanders won the draft lottery and retained the number one overall selection. The NY Islanders and Tampa Bay fell in the anticipated draft order after combining for 4 wins after 24 games. Atlanta was ranked first in the anticipated standings since they performed the best after becoming mathematically eliminated from playoff contention. Phoenix, who declared for bankruptcy, moved from the sixth draft pick to second overall.

Proposed Draft Formula

Draft order is determined by the number of points a team earns after mathematical elimination from the playoffs. The tie breaker becomes the team with the better regular season record.

The draft order is based on a formula that emphasizes a high level of competition to encourage teams to win and elevate their standings in the Entry Draft. Teams that had a poor yearly performance receive the benefit of a longer time frame and more games to accumulate points towards these standings.

2008-2009 NHL Season Standings

#	East Conference	GP	W	L	OL	PTS
1	Boston	82	53	19	10	116
2	Washington	82	50	24	8	108
3	New Jersey	82	51	27	4	106
4	Pittsburgh	82	45	28	9	99
5	Philadelphia	82	44	27	11	99
6	Carolina	82	45	30	7	97
7	NY Rangers	82	43	30	9	95
8	Montreal	82	41	30	11	93
9	Florida	82	41	30	11	93
10	Buffalo	82	41	32	9	91
11	Ottawa	82	36	35	11	83
12	Toronto	82	34	35	13	81
13	Atlanta	82	35	41	6	76
14	Tampa Bay	82	24	40	18	66
15	NY Islanders	82	26	47	9	61

#	West Conference	GP	W	L	OL	PTS
1	San Jose	82	53	18	11	117
2	Detroit	82	51	21	10	112
3	Vancouver	82	45	27	10	100
4	Chicago	82	46	24	12	104
5	Calgary	82	46	30	6	98
6	St. Louis	82	41	31	10	92
7	Columbus	82	41	31	10	92
8	Anaheim	82	42	33	7	91
9	Minnesota	82	40	33	9	89
10	Nashville	82	40	34	8	88
11	Edmonton	82	38	35	9	85
12	Dallas	82	36	35	11	83
13	Phoenix	82	36	39	7	79
14	Los Angeles	82	34	37	11	79
15	Colorado	82	32	45	5	69

Anticipated 2009 Draft Order

#	Franchise	Date	GP	W	L	OL	PTS
1	Atlanta	3/24	8	5	3	0	10
2	Phoenix	3/31	6	4	2	0	8
3	Ottawa	3/31	6	3	2	1	7
4	NY Islanders	3/14	13	3	9	1	7
5	Los Angeles	4/2	5	3	2	0	6
6	Toronto	3/31	6	3	3	0	6
7	Colorado	3/26	8	1	4	3	5
8	Tampa Bay	3/19	11	1	7	3	5
9	Dallas	4/4	3	1	1	1	3
10	Florida	4/9	1	1	0	0	2
11	Buffalo	4/9	1	1	0	0	2
12	Minnesota	4/10	1	1	0	0	2
13	Edmonton	4/7	2	1	1	0	2
14	Nashville	4/10	0	0	0	0	0

2009 Reverse Standings

#	Franchise	Date	GP	W	L	OL	PTS
1	NY Islanders	3/14	13	3	9	1	7
2	Tampa Bay	3/24	11	1	7	3	5
3	Colorado	3/26	8	1	4	3	5
4	Atlanta	3/24	8	5	3	0	10
5	Los Angeles	4/2	5	3	2	0	6
6	Phoenix	3/31	6	4	2	0	8
7	Toronto	3/31	6	3	3	0	6
8	Dallas	4/4	3	1	1	1	3
9	Ottawa	3/31	6	3	2	1	7
10	Edmonton	4/7	2	1	1	0	2
11	Nashville	4/10	0	0	0	0	0
12	Minnesota	4/10	1	1	0	0	2
13	Buffalo	4/9	1	1	0	0	2
14	Florida	4/9	1	1	0	0	2

2007-2008 NHL Season

Executive Summary

The Tampa Bay Lightning won the draft lottery and retained the number one overall selection. Los Angeles was ranked higher in the standings than Tampa Bay due to the number of wins over the season. Los Angeles experienced a more "successful" conclusion to the season and played themselves out of a higher likelihood of drafting first overall. If St. Louis had won one extra game, the Blues would have had the first overall draft pick.

Proposed Draft Formula

Draft order is determined by the number of points a team earns after mathematical elimination from the playoffs. The tie breaker becomes the team with the better regular season record.

The draft order is based on a formula that emphasizes a high level of competition to encourage teams to win and elevate their standings in the Entry Draft. Teams that had a poor yearly performance receive the benefit of a longer time frame and more games to accumulate points towards these standings.

2007-2008 NHL Season Standings

#	East Conference	GP	W	L	OL	PTS
1	Montreal	82	47	25	10	104
2	Pittsburgh	82	47	27	8	102
3	Washington	82	43	31	8	94
4	New Jersey	82	46	29	7	99
5	NY Rangers	82	42	27	13	97
6	Philadelphia	82	42	29	11	95
7	Ottawa	82	43	31	8	94
8	Boston	82	41	29	12	94
9	Carolina	82	43	33	6	92
10	Buffalo	82	39	31	12	90
11	Florida	82	38	35	9	85
12	Toronto	82	36	35	11	83
13	NY Islanders	82	35	38	9	79
14	Atlanta	82	34	40	8	76
15	Tampa Bay	82	31	42	9	71

#	West Conference	GP	W	L	OL	PTS
1	Detroit	82	54	21	7	115
2	San Jose	82	49	23	10	108
3	Minnesota	82	44	28	10	98
4	Anaheim	82	47	27	8	102
5	Dallas	82	45	30	7	97
6	Colorado	82	44	31	7	95
7	Calgary	82	42	30	10	94
8	Nashville	82	41	32	9	91
9	Edmonton	82	41	35	6	88
10	Chicago	82	40	34	8	88
11	Vancouver	82	39	33	10	88
12	Phoenix	82	38	37	7	83
13	Columbus	82	34	36	12	80
14	St Louis	82	33	36	13	79
15	Los Angeles	82	32	43	7	71

Anticipated 2008 Draft Order

#	Franchise	Date	GP	W	L	OL	PTS
1	Los Angeles	3/15	9	4	4	1	9
2	St Louis	3/24	7	3	3	1	7
3	Atlanta	3/21	5	3	2	0	6
4	NY Islanders	3/23	6	2	2	2	6
5	Tampa Bay	3/21	8	2	5	1	5
6	Florida	3/29	3	2	1	0	4
7	Phoenix	3/30	3	1	1	1	3
8	Toronto	3/27	4	1	2	1	3
9	Buffalo	4/3	1	1	0	0	2
10	Edmonton	4/1	1	1	0	0	2
11	Chicago	4/3	2	1	1	0	2
12	Columbus	3/29	4	0	3	1	1
13	Carolina	4/5	0	0	0	0	0
14	Vancouver	4/3	1	0	1	0	0

2008 Reverse Standings

#	Franchise	Date	GP	W	L	OL	PTS
1	Tampa Bay	3/21	8	2	5	1	5
2	Los Angeles	3/15	9	4	4	1	9
3	Atlanta	3/21	5	3	2	0	6
4	St Louis	3/24	7	3	3	1	7
5	NY Islanders	3/23	6	2	2	2	6
6	Columbus	3/29	4	0	3	1	1
7	Toronto	3/27	4	1	2	1	3
8	Phoenix	3/30	3	1	1	1	3
9	Florida	3/29	3	2	1	0	4
10	Vancouver	4/3	1	0	1	0	0
11	Chicago	4/3	2	1	1	0	2
12	Edmonton	4/1	1	1	0	0	2
13	Buffalo	4/3	1	1	0	0	2
14	Carolina	4/5	0	0	0	0	0

Appendix A: NHL Rules for Breaking a Tie

If two or more clubs are tied in points during the regular season, the standing of the clubs is determined in the following order:

1. The fewer number of games played (i.e., superior points percentage).

2. The greater number of games won.

3. The greater number of points earned in games between the tied clubs. If two clubs are tied, and have not played an equal number of home games against each other, points earned in the first game played in the city that had the extra game shall not be included. If more than two clubs are tied, the higher percentage of available points earned in games among those clubs, and not including any "odd" games, shall be used to determine the standing.

4. The greater differential between goals for and against for the entire regular season.

Appendix B: Mathematical Elimination Formula

1. Calculate the ideal combination of top seven playoff teams. The selection of these seven teams is based on two factors: their ability to make the playoffs, and their ability to take points away from the teams on the cusp of elimination within the conference.

   (a) Specify a team for the elimination calculation. The teams chosen for the top 7 seeds can change based on the tested team.

   (b) Seeds are automatically awarded to teams that have achieved a rank that cannot be passed by the selected team. Even if the selected team wins out, they cannot reach the number of points the powerhouse teams have already accumulated. If there are more than seven teams that have an unreachable rank, proceed to step 3b. If there are exactly seven seeds, proceed to step 2a. Otherwise, note which teams have already been seeded and continue with the algorithm.

   (c) For each of the remaining teams in the conference, calculate the top contender. How many points can each team earn if it wins all remaining games but loses in regulation against the specified team,

teams that have already been identified as seeds, and teams from the other conferences?

    i. Begin with the current standings data.

    ii. A regulation win is awarded in contests against any same conference team not yet awarded a seed.

(d) If no seeds have been previously awarded, the first seed is the team with the greatest optimum rank after projecting a regulation win for all remaining games except for the games against the specified team, or opposite conference, where they lose in regulation. In the event that two or more teams tie for the position, preference is given to a team if they have a positive win percentage against the specified team's optimal outcome. Otherwise, the head-to-head records from played games should be used. If a tie remains, selection is arbitrary.

(e) Calculate the number 2 seed for each of the other 13 teams in the conference. In addition to the steps listed in 1c, there is now one more consideration: the teams lose in regulation to the tested team, teams from other conferences, and the team seeded first. The second seed is the team with the greatest optimum rank.

(f) Continue the permutation until seeds 1 through 6 are determined. Each of the three divisions in the conference must be represented by at least one team. If there is a division that does not have a team awarded a seed, then the seventh seed is awarded to the team in that division that has earned the greatest optimum rank after projecting a regulation win for all remaining games, except for the game against the specified team, teams from the opposite conference, and the teams tagged for finishing with the first, second, third, fourth, fifth, or sixth seed. Otherwise, calculate the seventh seed among all remaining eight teams.

2. Project the optimal situation for remaining games. If there exists a combination of wins and losses that will allow the tested team to clinch a playoff spot, the formula here will find it.

(a) When the teams tagged for seeds 1-7 play against another team not on this list, they are given a projected regulation win unless playing against the specified team. It does not matter with which conference the opponent is associated. The seeded teams must accumulate as many points as possible.

(b) Pool the schedules games when unseeded teams from the same conference compete. Find the infimum of the possible maximum ranks.

    i. Pick the game where the top team with at least one remaining game plays their highest ranked opponent.

    ii. The team ranked lower wins in regulation.

    iii. Repeat until all games remaining have been exhausted.

(c) Pool the schedules games when seeded teams compete. Find the supremum of the possible minimum ranks.

    i. Pick the game where the bottom team with at least one remaining game plays their lowest ranked opponent.

    ii. The team ranked lower wins in overtime.

    iii. Repeat until all games remaining have been exhausted.

3. Determine possible elimination. Both of the following must be true for a team to be mathematically eliminated:

(a) If any of the teams not identified for seeds 1-7 will end with a ranking that is better than the optimum ranking for the specified team, then the specified team cannot obtain a wild-card position.

(b) The specified team cannot win the division using stepwise formulas similar to those described above in step 2b. In this case, there are no seeds awarded since only the division winner is guaranteed a playoff position.

    i. Assume the identified team wins all remaining games.

    ii. All other teams in the division lose in regulation to teams not in the division.

    iii. Apply step 2b for intradivsional games.

    iv. If this algorithm determines that another team from the division would have a higher rank than the identified team, then the identified team cannot clinch the division title.

If both scenarios (a) and (b) hold true, then the team is mathematically eliminated from playoff contention.

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