

Homework 08 (60 points)

- Build a (0,1) integer programming model built off of your submission for HW 07 that develops the 2018 NFL schedule.
- Adds the following constraints to the constraints you have already developed (1-20)
- And maximizes game quality across the season while violating as few soft constraints as possible
- Add the following hard constraints:
 21. No team plays more than 2 road games against teams coming off a BYE (8 points) (← Remember linking variables)
 22. Division opponents cannot play each other:
 - a) Back to Back (5 points), or
 - b) “Gapped” with a BYE (5 points)
- Add the following soft constraints:
 22. Teams should not play 3 consecutive home/away games between weeks 4 through 16 (if a team does play 3 consecutive games home or away it can only happen once in the season for that team – i.e., if the team has a 3 game stand at home, then it cannot have a 3 game stand on the road) (8 points)
 23. No team should play consecutive road games involving travel across more than 1 time zone (5 points)
 24. No team should open the season with two away games (3 points)
 25. No team should end the season with two away games (2 points)
 26. Florida teams should not play Early home games in the month of SEPT (3 points)
 27. CBS and FOX should not have fewer than 5 games each on a Sunday. If it does happen, it can only happen once in the season for each network (6 points)
 28. CBS and FOX should not lose both games between divisional opponents for their assigned conference (FOX is assigned NFC, CBS is assigned AFC) (5 points)
 29. The series between two divisional opponents should not end in the first half of the season (weeks 1 through 9) (5 points)
 30. Teams should not play on the road the week following a Monday night game (5 points)
- Constraint names will use the same convention as used for HW06:
 - Constraint names will start with the constraint number (i.e., 21_, 22_, 23_, 24_...30_)
 - Do not mess this up – your grade is counting on it