

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