

The NFL is an extremely popular professional sports league. One of the reasons for its success is the prevalence of gambling in a variety of forms (fantasy football, sports books, etc.). Your task will be to apply operations research to this vice, specifically looking at spreads for each game (noted below) and trying to create a solution that is very OR - maximize your profit.

The games that you will be focused on:

1. Tennessee at Buffalo
2. Cleveland at Indianapolis
3. Washington at NY Giants
4. New Orleans at Tampa Bay
5. Dallas at Carolina
6. Baltimore at Houston
7. Green Bay at St. Louis
8. Arizona at Minnesota
9. NY Jets at New England
10. Jacksonville at Oakland
11. Pittsburgh at Cincinnati
12. Detroit at Chicago

You have a balance of 5000 Elims and must bet at least 50 Elims per game. Each game returns 1 Elim per Elim (so, if you bet 100 Elims and won, you would be handed back 200 Elims, or a net gain of 100). You must use all 5000 Elims.

Your goal - maximize your net gain.

To do this, your task is to propose an operations research approach to picking over or under the spread, and to determine the amount of Elims to put on each game. Note that the approaches that we talked about in class will work, but there may be other approaches that you could use. Part of this assignment is to look for a variety of options and to propose the one that you think will be best. Yes, you could just randomly pick one or the other, but I will be looking for really thoughtful, elegant, and thorough approaches. There is a lot of data out there on these kinds of games (it's one of the reasons that I picked the NFL). You should use it to the best of your ability.

Write-up: For this assignment, you need to provide a two page (single spaced, 12pt, Times New Roman, normal margins) proposal document. In that document you must fully describe your model and justify why you believe the model will work. As an additional page, please provide your "solution", meaning the bets that your system has determined. You should provide the sources for any computational stuff you do (.lp files, Excel, etc.). If you don't use a computational resource, you must provide a full write up of how you got to your solution.

Odds: The spread to be used will be posted on Tuesday, 10/16.

Team Member Reviews: you are required to send by 5pm 10/22, a numeric grade (out of 100) to me via email. If the grade is < 80, you must provide a reason for the grade in that email.

DUE: All sources (what ever that may be) and a write up of the proposal and solution is due at 11:59pm on 10/19.