

A large, detailed soccer ball with a white and black geometric pattern is positioned in the foreground on a vibrant green grass field. In the background, a large stadium with a complex, blue-tinted glass and steel roof structure is visible. The sky above the stadium is filled with soft, white clouds. The stands of the stadium are filled with spectators, and various national flags are visible along the top edge of the seating area. The overall scene is brightly lit, suggesting a daytime event.

# **The Football Conundrum**

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# Premises Established:



No. of Teams  
No. of Matches  
No. of Stadiums available



Money earned for each game played by a team  
Teams playing against each other  
Ensuring teams play almost equally across stadiums



# Goal



**To Determine the Venue for each of the matches  
(Decision Variables)**

**By Maximizing Money earned from games played  
(Objective Function)**



# Approach

- ❑ Generate all possible combinations of matches happening at all Stadiums
- ❑ Limit number of matches played to the maximum number of matches(given)
- ❑ Define Constraints that will restrict a match to be scheduled at a max. of 1 venue
- ❑ Ensure a team does not play more games in one location than in the others(DiffMax=2)

**Tool: Python3**

**Linear Programming (Pulp Package)**