Football Bet Types Explained and Integration

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Explanation of All Football Bet Types and Integration into Heage Betting App

Objective: Expand strategy\_calculators.py to include methods for calculating profitable opportunities for all known football bet types using back and lay odds from Betfair and Smarkets APIs.

Bet Types and Mechanics:

1X2 (Match Result): Predict the match outcome (Home, Draw, Away).

Mechanics: Predict the final result. Odds are provided for each outcome (e.g., Home: 2.0, Draw: 3.5, Away: 3.8).

Integration: Method calculate\_1x2(back\_odds\_1, lay\_odds\_1, back\_odds\_x, lay\_odds\_x, back\_odds\_2, lay\_odds\_2, stake) to hedge across all three outcomes.

Over/Under Goals: Total goals over/under a threshold (e.g., 2.5).

Mechanics: Over 2.5 means 3+ goals; Under 2.5 means 0-2 goals. Odds for each (e.g., Over: 1.9, Under: 1.95).

Integration: Method calculate\_over\_under(back\_over\_odds, lay\_over\_odds, back\_under\_odds, lay\_under\_odds, stake) to hedge over/under outcomes.

Both Teams to Score (BTTS): Both teams score (Yes/No).

Mechanics: Two outcomes—Yes (both score) or No (at least one doesn’t). Odds (e.g., Yes: 1.8, No: 2.0).

Integration: Method calculate\_btts(back\_yes\_odds, lay\_yes\_odds, back\_no\_odds, lay\_no\_odds, stake) to hedge Yes/No outcomes.

Double Chance: Two of three outcomes (1X, X2, 12).

Mechanics: Lower risk, lower odds (e.g., 1X: 1.3, X2: 1.5).

Integration: Method calculate\_double\_chance(back\_1x\_odds, lay\_1x\_odds, back\_x2\_odds, lay\_x2\_odds, back\_12\_odds, lay\_12\_odds, stake) to hedge across outcomes.

Correct Score: Exact final score.

Mechanics: High odds due to multiple outcomes (e.g., 1-0: 8.0, 2-1: 10.0).

Integration: Method calculate\_correct\_score(scores\_odds\_dict, stake) to hedge across multiple scores.

Half-Time/Full-Time (HT/FT): Result at half-time and full-time.

Mechanics: Nine outcomes (e.g., Home/Home: 3.0, Draw/Draw: 5.0).

Integration: Method calculate\_ht\_ft(ht\_ft\_odds\_dict, stake) to hedge across nine outcomes.

Asian Handicap: Goal handicap betting.

Mechanics: Adjusts the score by the handicap (e.g., Team A must win by 2+ goals).

Integration: Method calculate\_asian\_handicap(back\_odds, lay\_odds, handicap, stake) to hedge adjusted outcomes.

Draw No Bet (DNB): Win with refund on draw.

Mechanics: Two outcomes (e.g., Home: 1.5, Away: 2.5; draw refunds stake).

Integration: Method calculate\_dnb(back\_odds, lay\_odds, draw\_odds, stake) to hedge with draw lay.

First/Anytime Goalscorer: Player to score first or anytime.

Mechanics: Player-specific odds (e.g., Player A First Goal: 5.0, Anytime: 2.0).

Integration: Method calculate\_goalscorer(back\_odds, lay\_odds, stake) to hedge Yes/No outcomes.

Total Corners: Over/under number of corners.

Mechanics: Similar to over/under goals (e.g., Over 10.5: 1.9, Under 10.5: 1.9).

Integration: Method calculate\_total\_corners(back\_over\_odds, lay\_over\_odds, back\_under\_odds, lay\_under\_odds, stake) to hedge over/under outcomes.

Total Cards: Over/under number of cards.

Mechanics: Similar to over/under (e.g., Over 3.5: 2.0, Under 3.5: 1.8).

Integration: Method calculate\_total\_cards(back\_over\_odds, lay\_over\_odds, back\_under\_odds, lay\_under\_odds, stake) to hedge over/under outcomes.

Player Props: Player-specific events (e.g., shots, assists).

Mechanics: Yes/No outcomes (e.g., Player A 1+ Shot on Target: 1.5).

Integration: Method calculate\_player\_prop(back\_odds, lay\_odds, stake) to hedge Yes/No outcomes.

Win Either Half: Team wins at least one half.

Mechanics: Two outcomes (e.g., Home Wins Either Half: 1.7, Away: 2.0).

Integration: Method calculate\_win\_either\_half(back\_odds, lay\_odds, stake) to hedge Yes/No outcomes.

Clean Sheet: Team doesn’t concede goals.

Mechanics: Yes/No outcome (e.g., Team A Clean Sheet: 3.0, No: 1.4).

Integration: Method calculate\_clean\_sheet(back\_odds, lay\_odds, stake) to hedge Yes/No outcomes.

Time of First Goal: Time bracket of first goal.

Mechanics: Multiple outcomes (e.g., 0-15 min: 3.5, 16-30 min: 4.0).

Integration: Method calculate\_time\_first\_goal(time\_odds\_dict, stake) to hedge across time brackets.

Outright Bets: Tournament winner.

Mechanics: Long-term bet (e.g., Team A to win: 5.0).

Integration: Method calculate\_outright(back\_odds, lay\_odds, stake) to hedge long-term bets.

Match Specials: Combined outcomes (e.g., Team A to win & over 2.5 goals).

Mechanics: Combined odds (e.g., Team A & Over 2.5: 4.0).

Integration: Method calculate\_match\_special(back\_odds, lay\_odds, stake) to hedge combined outcomes.

Goal Range: Total goals in a range (e.g., 0-1, 2-3).

Mechanics: Multiple outcomes (e.g., 0-1 goals: 3.0, 2-3 goals: 2.5).

Integration: Method calculate\_goal\_range(range\_odds\_dict, stake) to hedge across ranges.

Integration into Heage Betting App:

Modify API Fetching: Update betfair\_api.py and smarkets\_api.py to fetch additional market types (e.g., OVER\_UNDER\_25, CORRECT\_SCORE, BOTH\_TEAMS\_TO\_SCORE) by adjusting filters in list\_live\_markets.

New Methods in StrategyCalculators: Add methods for each bet type, following the arbitrage model:

Calculate lay stakes and profits for each outcome.

Hedge across outcomes to find guaranteed profit or minimize loss.

Return profit scenarios and profitability status.

Data Structure: Use dictionaries for multi-outcome bets (e.g., correct score, HT/FT) to pass odds for each outcome.

Logging: Extend logging to include new methods, following the existing format.

Endpoints in enhanced\_backend.py: Add endpoints for each bet type (e.g., /api/strategies/over-under, /api/strategies/correct-score).

Okay, this is a comprehensive plan for expanding the strategy\_calculators.py module in the Heage Betting App to incorporate a wide range of football bet types. Here's a breakdown of the explanations for each bet type and a conceptual outline of how they would be integrated into the Python module and the broader application.

**Explanation of All Football Bet Types**

Here's a more detailed explanation of each bet type, expanding on the mechanics:

**1. 1X2 (Match Result)**

* **Mechanics:** The most fundamental football bet. You predict the outcome of the match at full-time.
  + **1 (Home Win):** The home team wins the match.
  + **X (Draw):** The match ends in a tie.
  + **2 (Away Win):** The away team wins the match.
* **Example:** In a match between Manchester United (Home) and Liverpool (Away), betting on '1' wins if Manchester United wins, 'X' wins if the score is equal, and '2' wins if Liverpool wins.

**2. Over/Under Goals**

* **Mechanics:** You bet on whether the total number of goals scored in a match will be over or under a specific threshold set by the bookmaker. Common thresholds include 0.5, 1.5, 2.5, 3.5, etc.
  + **Over X.5:** The total number of goals scored is greater than X.5 (meaning X+1 or more).
  + **Under X.5:** The total number of goals scored is less than X.5 (meaning X or fewer).
* **Example:** Betting on 'Over 2.5 Goals' in a match requires 3 or more goals to be scored in total. Betting on 'Under 2.5 Goals' wins if 0, 1, or 2 goals are scored.

**3. Both Teams to Score (BTTS)**

* **Mechanics:** A straightforward bet on whether both teams participating in the match will score at least one goal each by the end of regular time.
  + **Yes:** Both the home team and the away team score at least one goal.
  + **No:** One or both teams fail to score any goals.
* **Example:** If Chelsea plays Arsenal and the final score is 2-1, a 'BTTS Yes' bet wins. If the score is 1-0, a 'BTTS No' bet wins.

**4. Double Chance**

* **Mechanics:** This bet type covers two of the three possible outcomes of a 1X2 bet, offering a higher probability of winning but typically with lower odds.
  + **1X (Home Win or Draw):** Your bet wins if the home team wins or the match ends in a draw.
  + **X2 (Away Win or Draw):** Your bet wins if the away team wins or the match ends in a draw.
  + **12 (Home Win or Away Win):** Your bet wins if either the home team or the away team wins (a draw results in a loss).
* **Example:** Betting on '1X' for a match between Tottenham and Manchester City wins if Tottenham wins or the game is a draw.

**5. Correct Score**

* **Mechanics:** You predict the exact final score of the match at the end of regular time. Due to the numerous possible scorelines, this bet type usually offers higher odds.
* **Example:** Betting on a correct score of '2-1' means you believe the home team will win with two goals and the away team will score one goal.

**6. Half-Time/Full-Time (HT/FT)**

* **Mechanics:** This bet involves predicting both the result at half-time and the result at full-time. There are nine possible combinations:
  + Home/Home (Home team leads at HT and wins at FT)
  + Home/Draw (Home team leads at HT and it's a draw at FT)
  + Home/Away (Home team leads at HT and away team wins at FT)
  + Draw/Home (It's a draw at HT and home team wins at FT)
  + Draw/Draw (It's a draw at HT and it's a draw at FT)
  + Draw/Away (It's a draw at HT and away team wins at FT)
  + Away/Home (Away team leads at HT and home team wins at FT)
  + Away/Draw (Away team leads at HT and it's a draw at FT)
  + Away/Away (Away team leads at HT and wins at FT)
* **Example:** Betting on 'Home/Away' means you predict the home team will be leading at half-time, but the away team will come back to win the match at full-time.

**7. Asian Handicap**

* **Mechanics:** A form of handicap betting where teams are given a virtual advantage or disadvantage to level the playing field. It eliminates the draw outcome in some cases.
  + **Whole Goal Handicap (e.g., -1, +1):**
    - Team A -1: Team A needs to win by 2 or more goals for your bet to win. A win by exactly 1 goal results in a push (stake refunded). A draw or loss means your bet loses.
    - Team B +1: Team B can win, draw, or lose by exactly 1 goal for your bet to win. A loss by 2 or more goals means your bet loses.
  + **Half Goal Handicap (e.g., -0.5, +0.5):** Eliminates the push possibility.
    - Team A -0.5: Team A needs to win for your bet to win. A draw or loss means your bet loses.
    - Team B +0.5: Team B can win or draw for your bet to win. A loss means your bet loses.
  + **Quarter Goal Handicap (e.g., -0.25, +0.25, -0.75, +0.75):** Splits your stake between the two nearest half-goal handicaps.
    - Team A -0.25: Win by 1+ goal wins fully. Draw loses half, stake refunded on the other half. Loss loses fully.
    - Team B +0.25: Win wins fully. Draw wins half, stake refunded on the other half. Loss by 1+ goal loses fully.
* **Integration Note:** The handicap parameter in calculate\_asian\_handicap will need to represent the specific handicap value (e.g., -1.0, +0.5, -0.25). The logic within the function will need to handle the different handicap types.

**8. Draw No Bet (DNB)**

* **Mechanics:** You bet on either the home or away team to win. If the match ends in a draw, your stake is refunded. This reduces the risk compared to a straight 1X2 bet but typically offers lower odds on the win outcomes.
* **Example:** Betting on 'Manchester City DNB' against Chelsea. If Manchester City wins, you win. If Chelsea wins, you lose. If the match is a draw, your stake is returned.

**9. First/Anytime Goalscorer**

* **Mechanics:** You bet on a specific player to score the first goal of the match or to score a goal at any point during the match (regular time).
  + **First Goalscorer:** The selected player must be the very first player to score in the match.
  + **Anytime Goalscorer:** The selected player must score at least one goal during the match.
* **Integration Note:** The back\_odds and lay\_odds here would be specific to a particular player for either the 'First Goalscorer' or 'Anytime Goalscorer' market. The calculate\_goalscorer method would likely need to know which type of goalscorer bet it's dealing with (though the hedging logic might be similar).

**10. Total Corners**

* **Mechanics:** Similar to Over/Under Goals, you bet on whether the total number of corners taken by both teams in a match will be over or under a specific threshold.
* **Example:** Betting on 'Over 9.5 Corners' requires 10 or more corners to be taken in the match.

**11. Total Cards**

* **Mechanics:** You bet on whether the total number of yellow and red cards shown in a match will be over or under a specific threshold. Bookmakers often have their own points systems for cards (e.g., yellow = 1 point, red = 2 points). This needs to be considered when interpreting the market.
* **Example:** Betting on 'Under 4.5 Cards' means you predict there will be 4 or fewer cards (based on the bookmaker's point system) in the match.

**12. Player Props**

* **Mechanics:** These are bets on specific events related to individual players within the match. Examples include:
  + Number of shots on target
  + Number of passes completed
  + Number of tackles made
  + To be booked (receive a yellow or red card)
  + To get an assist
* **Integration Note:** The calculate\_player\_prop method would be a general hedging function for any player-specific Yes/No outcome. The specific prop (e.g., "Player A 1+ Shot on Target") would be handled by the API fetching and passed to this method.

**13. Win Either Half**

* **Mechanics:** You bet on whether a specific team will win either the first half or the second half of the match. The halves are considered as separate 45-minute periods.
  + **Home Wins Either Half:** The home team wins either the first half (scores more goals than the away team in the first 45 minutes) or the second half (scores more goals than the away team in the second 45 minutes).
  + **Away Wins Either Half:** The away team wins either the first half or the second half.
* **Example:** If Manchester United beats Liverpool 1-0 in the first half, but Liverpool wins the second half 2-1, then both 'Manchester United Wins Either Half' and 'Liverpool Wins Either Half' bets would be winners.

**14. Clean Sheet**

* **Mechanics:** You bet on whether a specific team will prevent the opposing team from scoring any goals during the entire match (regular time).
  + **Team A Clean Sheet (Yes):** Team A does not concede any goals.
  + **Team A Clean Sheet (No):** Team A concedes at least one goal.
* **Example:** Betting on 'Chelsea Clean Sheet (Yes)' against Everton wins if the final score is 1-0, 2-0, 0-0, etc., in favor of Chelsea or a draw where Chelsea doesn't concede.

**15. Time of First Goal**

* **Mechanics:** You bet on the time interval in which the first goal of the match will be scored. Bookmakers typically offer various time brackets.
* **Example:** Betting on 'First Goal Between 16-30 Minutes' wins if the first goal of the match is scored between the 16th minute and the 30th minute (inclusive). If there are no goals, these bets usually lose.

**16. Outright Bets**

* **Mechanics:** These are long-term bets placed on the outcome of an entire tournament or league, rather than a single match. Common examples include betting on the winner of the Premier League, the Champions League, or the World Cup.
* **Integration Note:** Hedging outright bets can be more complex as the events unfold over a longer period. The calculate\_outright method would likely involve back and lay odds for the same team to win the tournament at a specific point in time.

**17. Match Specials**

* **Mechanics:** Bookmakers often create special bets that combine multiple outcomes within a single match. These can offer higher odds than betting on each outcome individually.
* **Example:** "Team A to win and Over 2.5 goals," "Player B to score first and Team A to win 2-0," etc.
* **Integration Note:** The calculate\_match\_special method would need to handle the back and lay odds for this specific combined event. The logic within the method would depend on the specific combination.

**18. Goal Range**

* **Mechanics:** You bet on the total number of goals scored in a match falling within a specific range.
* **Example:** Betting on '2-3 Goals' means you predict that the total number of goals scored in the match will be either two or three.

**Integration into Heage Betting App**

Here's a conceptual outline of how the integration would proceed:

**1. Modify API Fetching (betfair\_api.py and smarkets\_api.py):**

* **Identify Market Types:** For each new bet type, you'll need to determine the corresponding market identifiers or descriptions used by the Betfair and Smarkets APIs. This might involve exploring their API documentation or making test calls.
* **Adjust Filters:** Modify the list\_live\_markets (or similar functions) in your API modules to include filters that retrieve markets for the new bet types. For example, you might filter by marketType or eventName containing keywords like "Over/Under 2.5 Goals," "Correct Score," "Both Teams To Score," etc.
* **Data Parsing:** Update the data parsing logic within the API modules to correctly extract the back and lay odds for each outcome within the retrieved markets. For multi-outcome bets, ensure you can retrieve the odds for each possible outcome.

**2. New Methods in strategy\_calculators.py:**

For each bet type, you'll create a new method following a similar arbitrage/hedging logic. Here's a general structure:

Python

# strategy\_calculators.py

import math

import logging

logger = logging.getLogger(\_\_name\_\_)

# Existing methods...

def calculate\_1x2(back\_odds\_1, lay\_odds\_1, back\_odds\_x, lay\_odds\_x, back\_odds\_2, lay\_odds\_2, stake):

"""Calculates potential profit from hedging the 1X2 market."""

outcomes = {

'1': {'back': back\_odds\_1, 'lay': lay\_odds\_1},

'X': {'back': back\_odds\_x, 'lay': lay\_odds\_x},

'2': {'back': back\_odds\_2, 'lay': lay\_odds\_2},

}

lay\_stakes = {}

potential\_profits = {}

for outcome\_back, details\_back in outcomes.items():

if details\_back['back'] is None:

continue

lay\_stakes[outcome\_back] = stake / (details\_back['back'] - 1)

potential\_profits[outcome\_back] = {}

for outcome\_lay, details\_lay in outcomes.items():

if details\_lay['lay'] is None:

potential\_profits[outcome\_back][outcome\_lay] = None

continue

profit\_if\_lay\_wins = stake - lay\_stakes[outcome\_back] \* (details\_lay['lay'] - 1)

profit\_if\_back\_wins = lay\_stakes[outcome\_back] \* (details\_back['back'] - 1) - stake

potential\_profits[outcome\_back][outcome\_lay] = {

'profit\_if\_lay\_wins': round(profit\_if\_lay\_wins, 2),

'profit\_if\_back\_wins': round(profit\_if\_back\_wins, 2),

'lay\_stake': round(lay\_stakes[outcome\_back], 2),

}

logger.info(f"1X2 Hedging - Backing {outcome\_back} with stake {stake}: {potential\_profits[outcome\_back]}")

# Further logic to determine optimal lay stakes for all outcomes simultaneously

# and check for profitable arbitrage opportunities. This will be more complex

# for multi-outcome bets. A simpler initial approach might be to check

# for profitable two-way or three-way arbitrage scenarios.

return {"message": "1X2 calculation logic needs further implementation for full hedging."}

def calculate\_over\_under(back\_over\_odds, lay\_over\_odds, back\_under\_odds, lay\_under\_odds, stake):

"""Calculates potential profit from hedging the Over/Under market."""

# Similar logic to calculate\_1x2 but with two outcomes: Over and Under

pass

def calculate\_btts(back\_yes\_odds, lay\_yes\_odds, back\_no\_odds, lay\_no\_odds, stake):

"""Calculates potential profit from hedging the BTTS market."""

# Similar logic for Yes/No outcomes

pass

def calculate\_double\_chance(back\_1x\_odds, lay\_1x\_odds, back\_x2\_odds, lay\_x2\_odds, back\_12\_odds, lay\_12\_odds, stake):

"""Calculates potential profit from hedging the Double Chance market."""

# More complex as there are three overlapping back bets to consider against

# three lay bets. Needs careful calculation of lay stakes.

pass

def calculate\_correct\_score(scores\_odds\_dict, stake):

"""Calculates potential profit from hedging the Correct Score market."""

# scores\_odds\_dict will be like {'1-0': {'back': 8.0, 'lay': 8.5}, ...}

# Logic to calculate lay stakes for each score to guarantee profit.

pass

def calculate\_ht\_ft(ht\_ft\_odds\_dict, stake):

"""Calculates potential profit from hedging the HT/FT market."""

# ht\_ft\_odds\_dict will be like {'HH': {'back': 3.0, 'lay': 3.5}, ...}

# Logic to calculate lay stakes for each of the 9 outcomes.

pass

def calculate\_asian\_handicap(back\_odds, lay\_odds, handicap

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Python

# strategy\_calculators.py

import math

import logging

logger = logging.getLogger(\_\_name\_\_)

def calculate\_arbitrage(back\_odds, lay\_odds):

"""

Calculates if an arbitrage opportunity exists between back and lay odds.

Args:

back\_odds (float): Decimal odds for the back bet.

lay\_odds (float): Decimal odds for the lay bet.

Returns:

bool: True if arbitrage opportunity exists, False otherwise.

"""

if back\_odds is None or lay\_odds is None or lay\_odds == 0:

return False

return (1 / back\_odds) + (1 / lay\_odds) < 1

def calculate\_lay\_stake(back\_stake, back\_odds, lay\_odds, commission=0):

"""

Calculates the required lay stake for a given back stake to ensure equal profit

(or minimize loss) in an arbitrage scenario, considering commission.

Args:

back\_stake (float): The stake placed on the back bet.

back\_odds (float): Decimal odds for the back bet.

lay\_odds (float): Decimal odds for the lay bet.

commission (float): Commission percentage charged by the exchange (e.g., 0.05 for 5%).

Returns:

float: The lay stake required.

"""

if lay\_odds <= commission:

return 0

lay\_stake = (back\_stake \* (back\_odds - 1)) / (lay\_odds - 1 - commission \* (lay\_odds - 1))

return lay\_stake

def calculate\_profit(back\_stake, back\_odds, lay\_stake, lay\_odds, commission=0):

"""

Calculates the profit from an arbitrage bet.

Args:

back\_stake (float): The stake placed on the back bet.

back\_odds (float): Decimal odds for the back bet.

lay\_stake (float): The stake placed on the lay bet.

lay\_odds (float): Decimal odds for the lay bet.

commission (float): Commission percentage charged by the exchange.

Returns:

float: The profit from the arbitrage bet. Can be negative if not a true arbitrage.

"""

profit\_if\_back\_wins = (back\_stake \* (back\_odds - 1)) - (lay\_stake \* commission \* (lay\_odds - 1))

profit\_if\_lay\_wins = back\_stake - (lay\_stake \* (lay\_odds - 1)) + (lay\_stake \* (1 - commission) \* (lay\_odds - 1))

# Simplified profit if lay wins: back\_stake - lay\_stake \* (lay\_odds - 1) \* commission

profit\_if\_lay\_wins\_simplified = back\_stake - (lay\_stake \* (lay\_odds - 1) \* commission)

# To get a single profit figure assuming optimal hedging for arbitrage:

liability = lay\_stake \* (lay\_odds - 1)

total\_stake = back\_stake + lay\_stake

profit = (back\_stake \* (back\_odds - 1)) - liability - (lay\_stake \* commission \* (lay\_odds - 1))

# Another way to calculate guaranteed profit in a true arb:

implied\_probability\_back = 1 / back\_odds

implied\_probability\_lay = 1 / lay\_odds

if implied\_probability\_back + implied\_probability\_lay < 1:

profit\_percentage = 1 - (implied\_probability\_back + implied\_probability\_lay)

profit = profit\_percentage \* total\_stake # Approximate

return round(profit, 2)

def calculate\_1x2(back\_odds\_1, lay\_odds\_1, back\_odds\_x, lay\_odds\_x, back\_odds\_2, lay\_odds\_2, stake, commission=0):

"""Calculates potential profit from hedging the 1X2 market."""

outcomes = {

'1': {'back': back\_odds\_1, 'lay': lay\_odds\_1},

'X': {'back': back\_odds\_x, 'lay': lay\_odds\_x},

'2': {'back': back\_odds\_2, 'lay': lay\_odds\_2},

}

lay\_stakes = {}

profits = {}

arbitrage\_opportunity = False

implied\_probability\_sum = 0

for outcome, odds in outcomes.items():

if odds['back'] is not None:

implied\_probability\_sum += 1 / odds['back']

if implied\_probability\_sum < 1:

arbitrage\_opportunity = True

if arbitrage\_opportunity:

# Simple approach: Calculate lay stake for each outcome assuming we backed it with 'stake'

for backed\_outcome, backed\_odds in outcomes.items():

if backed\_odds['back'] is None:

lay\_stakes[backed\_outcome] = 0

profits[backed\_outcome] = {'profit\_if\_back\_wins': None, 'profit\_if\_lay\_wins': None, 'lay\_stake': 0}

continue

optimal\_lay\_stake = calculate\_lay\_stake(stake, backed\_odds['back'], outcomes[backed\_outcome]['lay'], commission)

lay\_stakes[backed\_outcome] = optimal\_lay\_stake

profit = calculate\_profit(stake, backed\_odds['back'], optimal\_lay\_stake, outcomes[backed\_outcome]['lay'], commission)

profits[backed\_outcome] = {'profit': profit, 'lay\_stake': round(

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anymore? not the code a list of bets you can do and how you can do them. rewrite from the start and give me everything go deep

Okay, let's dive deep into the world of football betting! Here's a comprehensive breakdown of various football bet types and how you can approach them, going beyond just the mechanics and touching on strategy and considerations.

**Understanding the Fundamentals**

Before we delve into specific bet types, it's crucial to grasp some core concepts:

* **Odds:** Odds represent the probability of an event occurring and determine your potential payout. They can be displayed in decimal (e.g., 2.0), fractional (e.g., 1/1), or American (e.g., +100) formats. Decimal odds are generally easiest for calculating potential returns (Stake x Odds = Total Payout).
* **Stake:** This is the amount of money you wager on a particular bet.
* **Payout:** The total amount you receive if your bet wins, including your original stake.
* **Bookmaker (Bookie):** A company or individual that accepts bets on sporting and other events at agreed-upon odds.
* **Betting Exchange:** A platform where users can bet against each other (back and lay), rather than against a traditional bookmaker. Examples include Betfair and Smarkets.
* **Back Bet:** A traditional bet where you predict an event *will* happen.
* **Lay Bet:** A bet unique to exchanges where you predict an event *will not* happen. You are essentially acting as the bookmaker.
* **Margin (Overround):** Bookmakers build a profit margin into their odds, meaning the implied probabilities of all outcomes in a market will add up to more than 100%. This is how they make money.
* **Value Betting:** Identifying bets where the odds offered by the bookmaker are higher than your assessment of the true probability of the event occurring.
* **Arbitrage Betting (Arbing):** Exploiting differences in odds offered by different bookmakers or exchanges to guarantee a profit regardless of the outcome. This often involves backing all possible outcomes at sufficiently high odds.
* **Hedging:** Placing bets on the opposite outcome of an existing bet to reduce risk or guarantee a profit. Lay betting on exchanges is a common way to hedge back bets.

**Detailed Breakdown of Football Bet Types**

Now, let's explore the different ways you can bet on football:

**1. Match Result (1X2)**

* **How it Works:** You predict the outcome of the match at the end of regular time (usually 90 minutes plus injury time, but excluding extra time or penalties unless specified).
  + **1 (Home Win):** You bet on the home team to win.
  + **X (Draw):** You bet on the match to end in a tie.
  + **2 (Away Win):** You bet on the away team to win.
* **How to Bet:** Simply select your chosen outcome and enter your stake with a bookmaker or on an exchange (back the outcome). To lay an outcome on an exchange, you are betting that this specific result will *not* happen.
* **Strategic Considerations:** Consider team form, head-to-head records, home advantage, player injuries and suspensions, motivation, and even weather conditions. Look for discrepancies in odds between different bookmakers. On exchanges, analyze the liquidity (amount of money available to back and lay) and the gap between back and lay odds.

**2. Over/Under Goals**

* **How it Works:** You bet on the total number of goals scored in a match by both teams combined. The bookmaker sets a threshold (e.g., 0.5, 1.5, 2.5, 3.5).
  + **Over X.5:** You bet that the total goals will be greater than the threshold.
  + **Under X.5:** You bet that the total goals will be less than the threshold.
* **How to Bet:** Select "Over" or "Under" the specified goal line and enter your stake. On an exchange, you can back either outcome or lay either outcome (betting that the total goals will not be over or under the threshold).
* **Strategic Considerations:** Analyze the attacking and defensive strengths of both teams, their recent goal-scoring records, the historical goal trends in their matches, and the importance of the game (high-stakes games might be more cautious).

**3. Both Teams to Score (BTTS)**

* **How it Works:** You bet on whether both teams in the match will score at least one goal each during regular time.
  + **Yes:** You bet that both teams will score.
  + **No:** You bet that at least one team will fail to score.
* **How to Bet:** Select "Yes" or "No" for the BTTS market and enter your stake. On an exchange, you can back or lay either outcome.
* **Strategic Considerations:** Look at the teams' recent scoring and conceding records. Teams with strong attacks but leaky defenses are often good candidates for "BTTS Yes." Consider the overall attacking intent and the likelihood of an open game.

**4. Double Chance**

* **How it Works:** This bet combines two of the three possible outcomes of a 1X2 bet, offering a higher probability of winning but with lower odds.
  + **1X (Home Win or Draw):** Your bet wins if the home team wins or the match ends in a draw.
  + **X2 (Away Win or Draw):** Your bet wins if the away team wins or the match ends in a draw.
  + **12 (Home Win or Away Win):** Your bet wins if either the home team or the away team wins (a draw results in a loss).
* **How to Bet:** Select your desired double chance combination and enter your stake. On an exchange, you would typically back the double chance outcome. Laying a double chance is less common but possible by combining lay bets on the individual 1X2 outcomes.
* **Strategic Considerations:** Use this bet type when you are reasonably confident that one team will not lose, but are unsure of the outright winner. It can be a safer option than a straight 1X2 bet, especially in closely contested matches.

**5. Correct Score**

* **How it Works:** You predict the exact final score of the match at the end of regular time.
* **How to Bet:** Select the specific scoreline you believe will be the final result and enter your stake. On an exchange, you can back specific correct scores. Laying a specific correct score means you are betting that the match will *not* end with that exact scoreline.
* **Strategic Considerations:** This is a high-risk, high-reward bet due to the numerous possible outcomes. Consider the likely number of goals each team might score based on their form and the strength of the opposition's defense. Analyzing historical scorelines between the two teams can also provide insights.

**6. Half-Time/Full-Time (HT/FT)**

* **How it Works:** You predict both the result at half-time and the result at full-time. There are nine possible combinations (Home/Home, Home/Draw, Home/Away, Draw/Home, Draw/Draw, Draw/Away, Away/Home, Away/Draw, Away/Away). 1

[1. www.soccerwidow.com](https://www.soccerwidow.com/football-gambling/betting-knowledge/systems/1x2-betting/system-x1-betting-on-htft-results/" \t "_blank)

[www.soccerwidow.com](https://www.soccerwidow.com/football-gambling/betting-knowledge/systems/1x2-betting/system-x1-betting-on-htft-results/" \t "_blank)

* **How to Bet:** Select your chosen HT/FT combination and enter your stake. On an exchange, you can back these combinations. Laying a specific HT/FT outcome means you are betting that the match will *not* have that specific half-time and full-time result.
* **Strategic Considerations:** Look for teams that start strongly or fade in the second half. Consider tactical changes that might occur at half-time. Analyzing the half-time and full-time results of previous matches can be helpful.

**7. Asian Handicap**

* **How it Works:** This is a form of handicap betting that aims to level the playing field between teams of different perceived strengths. It involves giving a virtual goal advantage or disadvantage to one of the teams. Crucially, some Asian handicaps eliminate the possibility of a draw.
  + **Whole Goal Handicap (e.g., -1, +1):**
    - Team A -1: Team A needs to win by 2 or more goals for your bet to win. A win by exactly 1 goal results in a push (stake refunded). A draw or loss means your bet loses.
    - Team B +1: Team B can win, draw, or lose by exactly 1 goal for your bet to win. A loss by 2 or more goals means your bet loses.
  + **Half Goal Handicap (e.g., -0.5, +0.5):** Eliminates the push possibility.
    - Team A -0.5: Team A needs to win for your bet to win. A draw or loss means your bet loses.
    - Team B +0.5: Team B can win or draw for your bet to win. A loss means your bet loses.
  + **Quarter Goal Handicap (e.g., -0.25, +0.25, -0.75, +0.75):** Your stake is effectively split between the two nearest half-goal handicaps.
    - Team A -0.25: Win by 1+ goal wins fully. Draw loses half your stake, the other half is refunded. Loss loses fully.
    - Team B +0.25: Win wins fully. Draw wins half your stake (at the odds), the other half is refunded. Loss by 1+ goal loses fully.
    - Team A -0.75: Win by 2+ goals wins fully. Win by exactly 1 goal wins half your stake (at the odds), the other half is a push (refunded). Draw or loss loses fully.
    - Team B +0.75: Win or draw wins fully. Loss by exactly 1 goal loses half your stake, the other half is a push (refunded). Loss by 2+ goals loses fully.
* **How to Bet:** Select the team and the specific Asian handicap you want to bet on, and enter your stake. On an exchange, you can back or lay specific Asian handicap outcomes.
* **Strategic Considerations:** Use Asian handicaps to get better odds on strong favorites (by giving them a negative handicap) or to provide a safety net when betting on underdogs (by giving them a positive handicap). Understand the nuances of different handicap values, especially quarter goals.

**8. Draw No Bet (DNB)**

* **How it Works:** You bet on either the home or away team to win. If the match ends in a draw, your stake is refunded.
* **How to Bet:** Select the team you want to bet on in the "Draw No Bet" market and enter your stake. On an exchange, you would typically back the team in the DNB market. To effectively lay DNB on a team, you would lay the straight win for that team and also lay the draw.
* **Strategic Considerations:** This is a good option when you believe a team is likely to win but want insurance against a draw. The odds will be lower than for a straight win bet.

**9. First/Anytime Goalscorer**

* **How it Works:** You bet on a specific player to score the first goal of the match or to score a goal at any point during the match (regular time).
* **How to Bet:** Select the player and the market (First Goalscorer or Anytime Goalscorer) you want to bet on, and enter your stake. On an exchange, you can back specific players in these markets. Laying a player in the "Anytime Goalscorer" market means you are betting they will *not* score during the match. Laying "First Goalscorer" is trickier as you would need to consider all other players and no goalscorer.
* **Strategic Considerations:** Consider the player's recent scoring form, their position on the pitch, their likelihood of taking penalties or free kicks, and the strength of the opposition's defense.

**10. Total Corners**

* **How it Works:** Similar to Over/Under Goals, you bet on whether the total number of corners taken by both teams in a match will be over or under a specific threshold.
* **How to Bet:** Select "Over" or "Under" the specified corner line and enter your stake. On an exchange, you can back or lay either outcome.
* **Strategic Considerations:** Analyze the attacking styles of both teams (teams that attack frequently and use wing play are more likely to win corners), their recent corner statistics, and the flow of the game (a tight, defensive game might have fewer corners).

**11. Total Cards**

* **How it Works:** You bet on whether the total number of yellow and red cards shown in a match will be over or under a specific threshold. Bookmakers often have their own points systems for cards (e.g., yellow = 1 point, red = 2 points).
* **How to Bet:** Select "Over" or "Under" the specified card line and enter your stake. On an exchange, you can back or lay either outcome.
* **Strategic Considerations:** Consider the referee's reputation for being strict or lenient, the history of ill-discipline between the two teams, and the importance and intensity of the match.

**12. Player Props (Player Statistics)**

* **How it Works:** These are bets on specific events related to individual players within the match, beyond just goalscoring. Examples include:
  + Number of shots
  + Number of shots on target
  + Number of passes completed
  + Number of tackles made
  + To be booked (receive a yellow or red card)
  + To get an assist
* **How to Bet:** Select the specific player prop and the outcome (e.g., "Player A Over 2.5 Shots") and enter your stake. On an exchange, you can back or lay these specific player events.
* **Strategic Considerations:** Research individual player statistics, their role within the team, the opposition's strengths and weaknesses, and the overall game plan.

**13. Win Either Half**

* **How it Works:** You bet on whether a specific team will win either the first half or the second half of the match (by scoring more goals than the opponent in that specific half).
* **How to Bet:** Select the team and the "Win Either Half" market and enter your stake. On an exchange, you can back this outcome. Laying "Win Either Half" would be more complex, requiring laying both "Team to win first half" AND "Team to win second half" and accounting for the draw in both halves.
* **Strategic Considerations:** Look for teams that tend to start quickly or finish strongly. Consider teams that might make tactical adjustments at half-time that could lead to a win in the second half.

**14. Clean Sheet**

* **How it Works:** You bet on whether a specific team will prevent the opposing team from scoring any goals during the entire match (regular time).
* **How to Bet:** Select the team and the "Clean Sheet - Yes" or "Clean Sheet - No" market and enter your stake. On an exchange, you can back or lay either outcome.
* **Strategic Considerations:** Analyze the defensive strength of the team you are betting on, the attacking prowess of their opponents, and the historical clean sheet records of both teams.

**15. Time of First Goal**

* **How it Works:** You bet on the time interval in which the first goal of the match will be scored. Bookmakers typically offer various time brackets (e.g., 0-15 minutes, 16-30 minutes, No Goal).
* **How to Bet:** Select the time bracket you believe the first goal will fall into and enter your stake. On an exchange, you can back these time intervals. Laying a specific time bracket means you are betting the first goal will *not* be scored within that period.
* **Strategic Considerations:** Consider how quickly teams tend to start matches, their attacking intent from the beginning, and the defensive solidity of the opposition in the early stages.

**16. Outright Bets (Tournament/League Winners)**

* **How it Works:** These are long-term bets placed on the outcome of an entire tournament or league, rather than a single match. Examples include betting on the winner of the Premier League, the Champions League, or the World Cup.
* **How to Bet:** Select the team or player you believe will win the outright event and enter your stake. On an exchange, you can back or lay potential winners. Laying a team to win outright can involve significant liability as you would have to pay out to everyone who backed that team if they win.
* **Strategic Considerations:** Analyze team form over a longer period, their squad depth, historical performance in similar competitions, managerial stability, and the overall perceived strength of the competition. Odds for outright bets can fluctuate significantly throughout the season or tournament.

**17. Match Specials (Combined Bets)**

* **How it Works:** Bookmakers often create special bets that combine multiple outcomes within a single match. These can offer higher odds than betting on each outcome individually. Examples include:
  + Team A to win and Over 2.5 goals
  + Player B to score first and Team A to win 2-0
  + Number of corners in the first half and total cards in the match
* **How to Bet:** Select the specific match special offered by the bookmaker and enter your stake. These are typically only available to back with traditional bookmakers. Finding equivalent lay opportunities on exchanges can be difficult and would require creating your own combined lay bet (if possible at all).
* **Strategic Considerations:** These bets can offer value if you have strong opinions on multiple related aspects of the game. However, they are also more difficult to predict accurately as multiple conditions need to be met.

**18. Goal Range**

* **How it Works:** You bet on the total number of goals scored in a match falling within a specific range (e.g., 0-1 goals, 2-3 goals, 4+ goals).
* **How to Bet:** Select the goal range you believe the total goals will fall into and enter your stake. On an exchange, you can back these goal ranges. Laying a specific goal range means you are betting the total goals will *not* fall within that range.
* **Strategic Considerations:** Similar to Over/Under, but allows for more specific predictions about the likely number of goals. Consider the attacking and defensive strengths of both teams to narrow down the potential goal range.

**Live Betting (In-Play)**

It's important to note that almost all of these bet types are also available for live betting once the

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