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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).

DeeperSearch

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10 sources

Understanding user request

Exploring additional bet types

Evaluating arbitrage possibilities

Completed

Understanding user request

* The request is about explaining all football bet types and integrating them into the Heage Betting App.
* I'm considering how to expand strategy\_calculators.py to include methods for profitable opportunities using back and lay odds.
* Let's check the football bet types mentioned, starting with 1X2 and Over/Under Goals.
* Double Chance includes betting on two outcomes like Home or Draw, with lower risk and odds.
* Asian Handicap involves giving one team a virtual head start, like a -1.5 goal advantage.
* First/Anytime Goalscorer bets focus on player-specific odds for scoring, either first or anytime during the match.
* Player Props cover events like shots on target or assists, with Yes/No outcomes for each.

Exploring additional bet types

* Time of First Goal bets predict when the first goal will be scored, with brackets like 0-15 min.
* Goal Range bets involve predicting if total goals fall within ranges, like 0-1 or 2-3, with multiple outcomes.
* I'm searching for how to fetch back and lay odds from Betfair and Smarkets for these bet types.
* For multi-outcome bets like 1X2, the user wants to hedge across all outcomes, not just one.
* In arbitrage for multi-outcome events, you back each outcome at different bookmakers where the total implied probability is less than 1.
* Hmm, that's interesting, but that wouldn't make sense for arbitrage if we're looking at the same platform.
* For 1X2, the method needs back and lay odds for each outcome, suggesting a hedging approach across platforms.
* I'm thinking about how to calculate arbitrage by backing on one platform and laying on another for each outcome.
* Currently looking for ways to calculate lay stakes to hedge back bets, ensuring profit or minimizing loss.
* Just found interesting result: the user wants methods to calculate profits for each outcome, focusing on hedging across outcomes.
* For each bet type, the method should calculate how to place lay bets to hedge back bets across all outcomes, aiming for a guaranteed profit.

Evaluating arbitrage possibilities

* Typically, lay odds are higher than back odds, so arbitrage might not be straightforward.
* If back odds for Home win are 2.0 and lay odds are 1.9, laying at 1.9 and backing at 2.0 doesn't work for profit unless odds shift.

Searching for "how to calculate arbitrage in betting with back and lay odds"



Back/Lay betting calculator for arbing and trading on betting exchanges

backlaybettingcalculator.com



Arbitrage Calculator: Calculate how to guarantee a profit

arbitragecalc.com



How to calculate arbitrage betting – Smarkets Help Centre

help.smarkets.com



Arbitrage Calculator | Online Sports Betting Tools - SBR

www.sportsbookreview.com



Back to lay arbitrage betting strategy – Smarkets Help Centre

help.smarkets.com

See 5 more

* Arbitrage betting involves placing bets on all outcomes across bookmakers to guarantee profit, exploiting odds differences.
* In betting exchanges, you can back and lay the same outcome at different times or platforms to lock in profit.
* Backing at 2.50 on Smarkets and laying at 2.20 on Betfair might not profit directly, as laying means paying out if it wins.
* For arbitrage, both profit scenarios must be positive: if selection wins, (1.50)\*S - (1.20)\*L > 0; if loses, -S + L > 0.
* By backing at higher odds and laying at lower odds, you can lock in a profit, like with S = 100 and L ≈ 113.6 for a profit of about 13.6 in both cases.
* Across different platforms, if back odds on one are higher than lay odds on another for the same outcome, arbitrage is possible.
* When you lay a selection, you're betting it won't win, which can create arbitrage if back odds are higher elsewhere.
* There's a lot here, so I'm figuring out how to help the user calculate stakes for hedging.
* If back odds B are greater than lay odds Lay for the same outcome, you can arbitrage by backing and laying appropriately.
* For bet types with multiple outcomes, like 1X2, check if back odds exceed lay odds for each outcome to calculate arbitrage.
* For bet types like Asian Handicap or DNB, specific calculations might be needed due to their nature.
* For multi-outcome bets, like correct score or HT/FT, the method should handle a dictionary of odds for each possible outcome.
* I'm thinking about how to modify the API fetching in betfair\_api.py and smarkets\_api.py to include markets like OVER\_UNDER\_25, CORRECT\_SCORE, and others.
* For each outcome, compare back odds from Betfair with lay odds from Smarkets to find arbitrage opportunities.
* I'm considering how to implement methods in strategy\_calculators.py for each bet type, accepting odds and stakes to calculate profit scenarios.
* The calculate\_arbitrage method in strategy\_calculators.py checks if back odds exceed lay odds to find arbitrage opportunities.
* The calculate\_1x2 method takes back and lay odds for Home, Draw, and Away, suggesting a need to calculate arbitrage for each outcome separately.
* For bet types with only two outcomes, like BTTS or over/under, the calculation is straightforward, comparing back and lay odds for each.
* I'm planning to add methods like calculate\_correct\_score to handle multi-outcome bets, checking each score's odds for arbitrage.
* Let's ensure the implementation covers all bet types, making it easy for the user to calculate profits across platforms.

Completed













10 web pages

Key Points

* It seems likely that football bet types like 1X2, Over/Under, and BTTS can be integrated into the Heage Betting App by calculating profitable opportunities using back and lay odds from Betfair and Smarkets APIs.
* Research suggests that arbitrage opportunities can be identified by comparing back odds from one platform with lay odds from another, ensuring a guaranteed profit.
* The evidence leans toward implementing methods in strategy\_calculators.py for each bet type, such as calculate\_1x2 for match results, to hedge across outcomes and minimize loss.

Explanation of Football Bet Types

Football betting includes various bet types, each with specific outcomes and mechanics. Here’s a breakdown of the main types and how they can be integrated:

1X2 (Match Result)

* Description: Predict if the home team wins, the match draws, or the away team wins.
* Mechanics: Odds are given for each outcome, e.g., Home: 2.0, Draw: 3.5, Away: 3.8.
* Integration: Use method calculate\_1x2 with back and lay odds for each outcome and a stake to hedge across all three, aiming for profit.

Over/Under Goals

* Description: Bet on total goals being over or under a threshold, e.g., 2.5 goals.
* Mechanics: Over 2.5 means 3+ goals; Under 2.5 means 0-2 goals, with odds like Over: 1.9, Under: 1.95.
* Integration: Method calculate\_over\_under hedges over/under outcomes using back and lay odds.

Both Teams to Score (BTTS)

* Description: Bet on whether both teams score (Yes) or not (No).
* Mechanics: Two outcomes with odds, e.g., Yes: 1.8, No: 2.0.
* Integration: Use calculate\_btts to hedge Yes/No outcomes with back and lay odds.

Other bet types, such as Double Chance, Correct Score, and Asian Handicap, follow similar patterns, each with specific outcomes and integration methods detailed in the survey section below.

Integration into Heage Betting App

To integrate these bet types, modify the API fetching in betfair\_api.py and smarkets\_api.py to include additional market types like OVER\_UNDER\_25 and CORRECT\_SCORE. Add new methods in strategy\_calculators.py to calculate arbitrage opportunities, extend logging for these methods, and create endpoints in enhanced\_backend.py, such as /api/strategies/over-under.

Survey Note: Detailed Analysis of Football Bet Types and Integration

This section provides a comprehensive analysis of all football bet types mentioned, their mechanics, and how they can be integrated into the Heage Betting App, particularly by expanding strategy\_calculators.py to calculate profitable opportunities using back and lay odds from Betfair and Smarkets APIs. The analysis is structured to cover each bet type, arbitrage calculation methods, and implementation details, ensuring a thorough understanding for developers and users alike.

Football Bet Types and Mechanics

Football betting encompasses a wide range of bet types, each with distinct outcomes and mechanics. Below is a detailed list, derived from the user's query, with explanations and examples:

* 1X2 (Match Result): Predict the match outcome as Home win (1), Draw (X), or Away win (2). Odds are provided for each, e.g., Home: 2.0, Draw: 3.5, Away: 3.8. This is a three-outcome bet, suitable for hedging across all possibilities.
* Over/Under Goals: Bet on whether the total goals scored will be over or under a specified threshold, e.g., 2.5 goals. Mechanics include Over 2.5 (3+ goals) and Under 2.5 (0-2 goals), with odds like Over: 1.9, Under: 1.95. This is a two-outcome bet.
* Both Teams to Score (BTTS): Predict if both teams will score at least one goal (Yes) or not (No). Two outcomes with odds, e.g., Yes: 1.8, No: 2.0, making it another two-outcome bet.
* Double Chance: Bet on two of three outcomes: 1X (Home or Draw), X2 (Draw or Away), 12 (Home or Away). Lower risk, lower odds, e.g., 1X: 1.3, X2: 1.5. This has three outcomes, similar to 1X2.
* Correct Score: Predict the exact final score, e.g., 1-0 at 8.0, 2-1 at 10.0. High odds due to multiple possible outcomes, requiring a dictionary for odds.
* Half-Time/Full-Time (HT/FT): Predict the result at half-time and full-time, with nine possible combinations, e.g., Home/Home: 3.0, Draw/Draw: 5.0. This is a multi-outcome bet, handled via a dictionary.
* Asian Handicap: Goal handicap betting, adjusting the score by a handicap, e.g., Team A must win by 2+ goals. Mechanics involve back and lay odds with a handicap value.
* Draw No Bet (DNB): Bet on a team to win, with stake refunded on a draw. Two outcomes, e.g., Home: 1.5, Away: 2.5, with draw odds for refund consideration.
* First/Anytime Goalscorer: Bet on a player to score first or anytime, with player-specific odds, e.g., Player A First Goal: 5.0, Anytime: 2.0. Yes/No outcomes for each player event.
* Total Corners: Bet on total corners over/under a number, e.g., Over 10.5: 1.9, Under 10.5: 1.9, similar to over/under goals, two outcomes.
* Total Cards: Bet on total cards over/under, e.g., Over 3.5: 2.0, Under 3.5: 1.8, another two-outcome bet.
* Player Props: Bet on player-specific events like shots or assists, Yes/No outcomes, e.g., Player A 1+ Shot on Target: 1.5.
* Win Either Half: Bet on a team winning at least one half, two outcomes, e.g., Home Wins Either Half: 1.7, Away: 2.0.
* Clean Sheet: Bet on a team not conceding goals, Yes/No outcome, e.g., Team A Clean Sheet: 3.0, No: 1.4.
* Time of First Goal: Bet on the time bracket of the first goal, multiple outcomes, e.g., 0-15 min: 3.5, 16-30 min: 4.0, handled via a dictionary.
* Outright Bets: Bet on tournament winner, long-term with odds, e.g., Team A to win: 5.0, single outcome per team.
* Match Specials: Combined outcomes, e.g., Team A to win & over 2.5 goals at 4.0, Yes/No for combined events.
* Goal Range: Bet on total goals in ranges, e.g., 0-1 goals: 3.0, 2-3 goals: 2.5, multiple outcomes via dictionary.

Arbitrage Calculation and Hedging

Arbitrage betting involves placing bets on all possible outcomes to guarantee a profit, exploiting differences in odds across platforms. For back and lay odds, the key is to identify opportunities where back odds on one platform (e.g., Betfair) are higher than lay odds on another (e.g., Smarkets) for the same outcome. This is possible due to market inefficiencies and can be calculated as follows:

* For a single outcome, if back odds ( B ) and lay odds ( Lay ), and

B>LayB > LayB > Lay

, calculate stakes such that:

* + Back with stake ( S ) at odds ( B ), profit if wins =

(B−1)⋅S−(Lay−1)⋅L(B - 1) \cdot S - (Lay - 1) \cdot L(B - 1) \cdot S - (Lay - 1) \cdot L

.

* + Lay with stake ( L ) at odds ( Lay ), profit if loses =

−S+L-S + L-S + L

.

* + Ensure both profits are positive, e.g.,

L>SL > SL > S

and

(B−1)⋅S>(Lay−1)⋅L(B - 1) \cdot S > (Lay - 1) \cdot L(B - 1) \cdot S > (Lay - 1) \cdot L

.

For example, if

B=2.50B = 2.50B = 2.50

,

Lay=2.20Lay = 2.20Lay = 2.20

, stake

S=100S = 100S = 100

, then

L≈113.6L \approx 113.6L \approx 113.6

, yielding a profit of approximately 13.6 in both scenarios, as calculated earlier.

For multi-outcome bets, check each outcome separately for arbitrage, as seen in methods like calculate\_1x2, which evaluates Home, Draw, and Away separately.

Integration into Heage Betting App

To integrate these bet types into the Heage Betting App, follow these steps:

1. API Fetching Modifications:
   * Update betfair\_api.py and smarkets\_api.py to fetch additional market types. Adjust filters in list\_live\_markets to include OVER\_UNDER\_25, CORRECT\_SCORE, BOTH\_TEAMS\_TO\_SCORE, etc. Ensure APIs retrieve back and lay odds for each outcome.
2. New Methods in strategy\_calculators.py:
   * Implement methods for each bet type following the arbitrage model:
     + calculate\_1x2(back\_odds\_1, lay\_odds\_1, back\_odds\_x, lay\_odds\_x, back\_odds\_2, lay\_odds\_2, stake) for 1X2, checking each outcome.
     + calculate\_over\_under(back\_over\_odds, lay\_over\_odds, back\_under\_odds, lay\_under\_odds, stake) for over/under goals.
     + calculate\_correct\_score(scores\_odds\_dict, stake) for correct score, using a dictionary for multiple outcomes.
   * Each method calculates lay stakes and profits, hedges across outcomes, and returns profit scenarios and profitability status.
3. Data Structure:
   * Use dictionaries for multi-outcome bets (e.g., correct score, HT/FT) to pass odds for each outcome, ensuring flexibility for varying numbers of possibilities.
4. Logging:
   * Extend logging to include new methods, following the existing format, to track calculations and identify issues.
5. Endpoints in enhanced\_backend.py:
   * Add endpoints for each bet type, e.g., /api/strategies/over-under, /api/strategies/correct-score, to expose calculations via API, enhancing user interaction.

Example Implementation Outline

Below is a table summarizing the methods and their parameters for key bet types, illustrating the integration approach:

|  |  |  |  |
| --- | --- | --- | --- |
| **Bet Type** | **Method Name** | **Parameters** | **Outcomes** |
| 1X2 | calculate\_1x2 | back\_odds\_1, lay\_odds\_1, back\_odds\_x, lay\_odds\_x, back\_odds\_2, lay\_odds\_2, stake | Home, Draw, Away |
| Over/Under Goals | calculate\_over\_under | back\_over\_odds, lay\_over\_odds, back\_under\_odds, lay\_under\_odds, stake | Over, Under |
| BTTS | calculate\_btts | back\_yes\_odds, lay\_yes\_odds, back\_no\_odds, lay\_no\_odds, stake | Yes, No |
| Correct Score | calculate\_correct\_score | scores\_odds\_dict, stake | Multiple scores |

This table aids in visualizing the method structure, ensuring clarity for implementation.

Conclusion

By implementing these methods and integrating them into the Heage Betting App, users can leverage arbitrage opportunities across various football bet types, enhancing strategic betting capabilities. The approach ensures comprehensive coverage, from API fetching to endpoint exposure, aligning with the user's objective as of 02:40 PM BST on Saturday, April 05, 2025.

Key Citations

* [Back/Lay betting calculator for arbing and trading on betting exchanges](https://backlaybettingcalculator.com/)
* [Arbitrage Calculator: Calculate how to guarantee a profit](https://arbitragecalc.com)
* [How to calculate arbitrage betting – Smarkets Help Centre](https://help.smarkets.com/hc/en-gb/articles/115001175531-How-to-calculate-arbitrage-betting)
* [Arbitrage Calculator | Online Sports Betting Tools - SBR](https://www.sportsbookreview.com/betting-calculators/arbitrage-calculator/)
* [Back to lay arbitrage betting strategy – Smarkets Help Centre](https://help.smarkets.com/hc/en-gb/articles/115001199231-Back-to-lay-arbitrage-betting-strategy)
* [Arbitrage Calculator | Betting Resources](https://www.pinnacle.com/betting-resources/en/betting-tools/arbitrage-calculator)
* [Arbitrage & Hedge Sports Betting Calculator | OddsJam](https://oddsjam.com/betting-calculators/arbitrage-hedge-bet)
* [Matched Betting Calculator | Free OddsMonkey Calculator | OddsMonkey](https://www.oddsmonkey.com/matched-betting/calculator/)
* [What is arbitrage betting? – Smarkets Help Centre](https://help.smarkets.com/hc/en-gb/articles/115001145392-What-is-arbitrage-betting)
* [Arbitrage Betting - The Ultimate Beginner’s Guide to Arbing](https://www.sbo.net/strategy/arbitrage-betting/)

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10 sources

Understanding user request

Exploring implementation details

Analyzing profit calculations

Completed

Understanding user request

* The request seems to continue from a previous discussion about the Heage Betting App.
* It looks like you're asking for more bet types or deeper insights into arbitrage calculations.
* I'm considering expanding on football bet types not covered before, like "Number of Goals" or "Half with Most Goals."
* Hmm, there's a lot here, and I'm thinking about niche bets like "To Score in Both Halves" or "To Nil."
* I'm also wondering if you want details on implementing arbitrage for complex bets, like 1X2 with multiple outcomes.
* Let's check if these niche bets can be integrated into the app's strategy calculators.
* I'm exploring how to handle arbitrage in betting exchanges, like backing on Betfair and laying on Smarkets.
* For 1X2 bets, it's more complex with three outcomes, so I'm thinking about checking each one separately for profit opportunities.
* I'm finding info on how to back Home on Betfair and lay it on Smarkets, then do the same for Draw and Away.
* OK, let's think about how the calculate\_1x2 method works with back and lay odds for each outcome.
* For each outcome, if back\_odds exceed lay\_odds, you can lock in a profit by backing on one platform and laying on another.
* In two-outcome bets like Over/Under, it's simpler: just compare back and lay odds for each to find arbitrage.
* Currently looking for ways to handle multi-outcome bets like Correct Score, checking each score for arbitrage opportunities.
* Just found interesting result: it's computationally intensive, but the principle is the same as single outcomes.
* The app could alert you when there's an arbitrage opportunity for a specific outcome in a match.
* I'm considering how such apps typically scan for odds discrepancies across platforms to find profitable bets.
* For bet types with multiple outcomes, like Correct Score, methods need to handle odds for each possible score.
* I'm thinking about returning a dictionary with outcomes where arbitrage is possible, including stakes and profits.

Exploring implementation details

Searching for "back lay arbitrage formula"



Back/Lay betting calculator for arbing and trading on betting exchanges

backlaybettingcalculator.com



Back Lay arbitrage calculator

napalmbet.com



Back to lay arbitrage betting strategy – Smarkets Help Centre

help.smarkets.com



How to calculate arbitrage betting – Smarkets Help Centre

help.smarkets.com



Arbitrage calculator for risk-free online betting on betting exchanges

www.arbcruncher.com

See 5 more

* Several sites, like backlaybettingcalculator.com and smarkets.com, offer calculators and explanations for back/lay arbitrage ([backlaybettingcalculator](https://backlaybettingcalculator.com/" \t "_blank)).

Browsing [help.smarkets.com](https://help.smarkets.com/hc/en-gb/articles/115001175531-How-to-calculate-arbitrage-betting) for "arbitrage calculation formula"

* Lay Stake is calculated as (Back Price × Back Stake) / (Current Lay Odds - Exchange Commission), per the formulas found.
* With Back Odds 2.2, Back Stake 200, Lay Odds 1.98, and 2% commission, Lay Stake is about 224, showing equal profit of around 20 in both win and lose cases ([Smarkets](https://help.smarkets.com/hc/en-gb/articles/115003374849-What-is-lay-betting-on-an-exchange-" \t "_blank)).
* For 1X2 bets, check each outcome like Home, Draw, Away, to see if back\_odds exceed lay\_odds for arbitrage.
* For bet types like Asian Handicap or Draw No Bet, there are specific rules, like refunds for draws, which affect calculations.
* I'm thinking about how commission impacts effective odds, often subtracted from lay odds in the denominator, as seen in Smarkets' example.
* In the formula, commission seems subtracted from lay odds, like (2.2 × 200) / (1.98 - 0.02), but let's clarify if that's right.
* Subtracting commission from lay odds, like 1.98 - 0.02 = 1.96, feels off, as commission is usually a percentage on profit.

Browsing [backlaybettingcalculator.com](https://backlaybettingcalculator.com/) for "back lay arbitrage formula"

* Cross-exchange arbitrage lets you enter back price, lay price, and stake constraints to compute optimal stakes for level profit.
* In one example, backing at 2.50 on Smarkets and laying at 2.20 on Betfair yields a £26.23 profit, factoring in commissions.
* For a single outcome, backing and laying the same selection is like a two-outcome arbitrage, with one outcome being the selection winning and the other losing.
* Profit formulas show if the selection wins, it's (O\_back - 1) \* S\_back \* (1 - C\_back) - (O\_lay - 1) \* S\_lay.
* The Smarkets example shows Lay Stake = (2.2 \* 200) / (1.98 - 0.02), giving about 224.49, with equal profit around 20 in both cases.
* For a back stake of 200 at odds 2.2, and lay at 1.98 with 2% commission, net profit is roughly 20 if the selection wins or loses.

Analyzing profit calculations

* To have equal profit, set win profit equal to lose profit: (Back Odds - 1)\*S\_back - (Lay Odds - 1)S\_lay = -S\_back + S\_lay(1-C).
* Back Odds \* S\_back = S\_lay \* [(1 - C) + (Lay Odds - 1)], simplifying the equation for clarity.
* The formula S\_lay = (Back Odds \* S\_back) / (Lay Odds - C) matches the example, where Lay Odds 1.98, C 0.02, gives S\_lay ≈ 224.49.
* For the Heage Betting App, assume back odds are net of fees, simplifying calculations in methods like calculate\_1x2.
* For P > 0, you need Back Odds \* (1 - C) > Lay Odds - C, but this isn't always easy to interpret.
* In practice, compute P after calculating S\_lay, then check if both scenarios show positive profit for arbitrage.
* S\_lay calculation ensures P\_win ≈ P\_lose, so checking P\_lose > 0 is usually enough, though rounding suggests checking both.
* Checking P\_lose > 0 should suffice for determining arbitrage opportunities.
* For bet types with multiple outcomes like Correct Score, iterate over each score and check for arbitrage opportunities.
* If both exchanges charge commissions, adjust formulas for C\_back and C\_lay, setting win and lose profits equal to solve for S\_lay.
* For both exchanges with commissions, the equation gets complex, moving terms to one side for clarity.
* Commission is typically on profit, not directly on odds, so let's stick with earlier formulas and adjust profits accordingly.
* For initial implementation, assume back odds have no commission, and lay odds have a standard 2% rate, hardcoding or parameterizing it in methods.
* If P > 0, then it's a profitable arbitrage.
* Present the user with the outcomes where arbitrage is possible, along with the recommended lay stake and expected profit.
* For each bet type, determine possible outcomes, like Home win, Draw, Away win for 1X2.
* For multi-outcome bets, use dictionaries to pass odds, then iterate and check each for arbitrage.
* Typically, commission is applied to the profit from lay bets on exchanges.

Completed













10 web pages

Key Points

* It seems likely that football bet types like 1X2, Over/Under, and BTTS can be integrated into the Heage Betting App by calculating profitable opportunities using back and lay odds from Betfair and Smarkets APIs.
* Research suggests that arbitrage opportunities can be identified by comparing back odds from one platform with lay odds from another, ensuring a guaranteed profit.
* The evidence leans toward implementing methods in strategy\_calculators.py for each bet type, such as calculate\_1x2 for match results, to hedge across outcomes and minimize loss.

Direct Answer

Overview

To expand strategy\_calculators.py for all known football bet types using back and lay odds from Betfair and Smarkets APIs, you can integrate methods that calculate profitable arbitrage opportunities. This involves fetching odds, applying arbitrage formulas, and ensuring the app can handle various bet types like 1X2, Over/Under, and Correct Score.

Steps to Integrate

* Modify API Fetching: Update betfair\_api.py and smarkets\_api.py to fetch odds for additional market types, such as OVER\_UNDER\_25 and CORRECT\_SCORE, by adjusting market filters.
* Add Calculation Methods: Create methods in strategy\_calculators.py for each bet type, like calculate\_1x2 for match results, to check for arbitrage by comparing back and lay odds.
* Arbitrage Calculation: For each outcome, use the formula

Slay=back odds×stakelay odds−commissionS\_{\text{lay}} = \frac{\text{back odds} \times \text{stake}}{\text{lay odds} - \text{commission}}S\_{\text{lay}} = \frac{\text{back odds} \times \text{stake}}{\text{lay odds} - \text{commission}}

to calculate the lay stake, then compute profit to ensure it's positive for arbitrage.

* Handle Multi-Outcome Bets: Use dictionaries for bet types with multiple outcomes, like Correct Score, to iterate and check each possibility.
* Integrate with App: Add endpoints in enhanced\_backend.py, such as /api/strategies/over-under, to expose these calculations, and extend logging for tracking.

This approach should help identify profitable betting opportunities, but success depends on accurate odds and commission handling.

Survey Note: Detailed Analysis of Football Bet Types and Integration

This section provides a comprehensive analysis of all football bet types mentioned, their mechanics, and how they can be integrated into the Heage Betting App, particularly by expanding strategy\_calculators.py to calculate profitable opportunities using back and lay odds from Betfair and Smarkets APIs. The analysis is structured to cover each bet type, arbitrage calculation methods, and implementation details, ensuring a thorough understanding for developers and users alike.

Football Bet Types and Mechanics

Football betting encompasses a wide range of bet types, each with distinct outcomes and mechanics. Below is a detailed list, derived from the user's query, with explanations and examples:

* 1X2 (Match Result): Predict the match outcome as Home win (1), Draw (X), or Away win (2). Odds are provided for each, e.g., Home: 2.0, Draw: 3.5, Away: 3.8. This is a three-outcome bet, suitable for hedging across all possibilities.
* Over/Under Goals: Bet on whether the total goals scored will be over or under a specified threshold, e.g., 2.5 goals. Mechanics include Over 2.5 (3+ goals) and Under 2.5 (0-2 goals), with odds like Over: 1.9, Under: 1.95. This is a two-outcome bet.
* Both Teams to Score (BTTS): Predict if both teams will score at least one goal (Yes) or not (No). Two outcomes with odds, e.g., Yes: 1.8, No: 2.0, making it another two-outcome bet.
* Double Chance: Bet on two of three outcomes: 1X (Home or Draw), X2 (Draw or Away), 12 (Home or Away). Lower risk, lower odds, e.g., 1X: 1.3, X2: 1.5. This has three outcomes, similar to 1X2.
* Correct Score: Predict the exact final score, e.g., 1-0 at 8.0, 2-1 at 10.0. High odds due to multiple possible outcomes, requiring a dictionary for odds.
* Half-Time/Full-Time (HT/FT): Predict the result at half-time and full-time, with nine possible combinations, e.g., Home/Home: 3.0, Draw/Draw: 5.0. This is a multi-outcome bet, handled via a dictionary.
* Asian Handicap: Goal handicap betting, adjusting the score by a handicap, e.g., Team A must win by 2+ goals. Mechanics involve back and lay odds with a handicap value.
* Draw No Bet (DNB): Bet on a team to win, with stake refunded on a draw. Two outcomes, e.g., Home: 1.5, Away: 2.5, with draw odds for refund consideration.
* First/Anytime Goalscorer: Bet on a player to score first or anytime, with player-specific odds, e.g., Player A First Goal: 5.0, Anytime: 2.0. Yes/No outcomes for each player event.
* Total Corners: Bet on total corners over/under a number, e.g., Over 10.5: 1.9, Under 10.5: 1.9, similar to over/under goals, two outcomes.
* Total Cards: Bet on total cards over/under, e.g., Over 3.5: 2.0, Under 3.5: 1.8, another two-outcome bet.
* Player Props: Bet on player-specific events like shots or assists, Yes/No outcomes, e.g., Player A 1+ Shot on Target: 1.5.
* Win Either Half: Bet on a team winning at least one half, two outcomes, e.g., Home Wins Either Half: 1.7, Away: 2.0.
* Clean Sheet: Bet on a team not conceding goals, Yes/No outcome, e.g., Team A Clean Sheet: 3.0, No: 1.4.
* Time of First Goal: Bet on the time bracket of the first goal, multiple outcomes, e.g., 0-15 min: 3.5, 16-30 min: 4.0, handled via a dictionary.
* Outright Bets: Bet on tournament winner, long-term with odds, e.g., Team A to win: 5.0, single outcome per team.
* Match Specials: Combined outcomes, e.g., Team A to win & over 2.5 goals at 4.0, Yes/No for combined events.
* Goal Range: Bet on total goals in ranges, e.g., 0-1 goals: 3.0, 2-3 goals: 2.5, multiple outcomes via dictionary.

Arbitrage Calculation and Hedging

Arbitrage betting involves placing bets on all possible outcomes to guarantee a profit, exploiting differences in odds across platforms. For back and lay odds, the key is to identify opportunities where back odds on one platform (e.g., Betfair) are higher than lay odds on another (e.g., Smarkets) for the same outcome. This is possible due to market inefficiencies and can be calculated as follows:

* For a single outcome, if back odds ( B ) and lay odds ( Lay ), and

B>LayB > LayB > Lay

, calculate stakes such that:

* + Back with stake ( S ) at odds ( B ), profit if wins =

(B−1)⋅S−(Lay−1)⋅L(B - 1) \cdot S - (Lay - 1) \cdot L(B - 1) \cdot S - (Lay - 1) \cdot L

.

* + Lay with stake ( L ) at odds ( Lay ), profit if loses =

−S+L-S + L-S + L

.

* + Ensure both profits are positive, e.g.,

L>SL > SL > S

and

(B−1)⋅S>(Lay−1)⋅L(B - 1) \cdot S > (Lay - 1) \cdot L(B - 1) \cdot S > (Lay - 1) \cdot L

.

For example, if

B=2.50B = 2.50B = 2.50

,

Lay=2.20Lay = 2.20Lay = 2.20

, stake

S=100S = 100S = 100

, then

L≈113.6L \approx 113.6L \approx 113.6

, yielding a profit of approximately 13.6 in both scenarios, as calculated earlier.

For multi-outcome bets, check each outcome separately for arbitrage, as seen in methods like calculate\_1x2, which evaluates Home, Draw, and Away separately.

From further analysis, the standard formula for lay stake to achieve equal profit, accounting for commission, is:

Slay=back odds×stakelay odds−commissionS\_{\text{lay}} = \frac{\text{back odds} \times \text{stake}}{\text{lay odds} - \text{commission}}S\_{\text{lay}} = \frac{\text{back odds} \times \text{stake}}{\text{lay odds} - \text{commission}}

Then, profit if the selection wins is:

Pwin=(back odds−1)×stake−(lay odds−1)×SlayP\_{\text{win}} = (\text{back odds} - 1) \times \text{stake} - (\text{lay odds} - 1) \times S\_{\text{lay}}P\_{\text{win}} = (\text{back odds} - 1) \times \text{stake} - (\text{lay odds} - 1) \times S\_{\text{lay}}

And if it loses:

Plose=−stake+Slay×(1−commission)P\_{\text{lose}} = - \text{stake} + S\_{\text{lay}} \times (1 - \text{commission})P\_{\text{lose}} = - \text{stake} + S\_{\text{lay}} \times (1 - \text{commission})

For arbitrage, ensure

Pwin>0P\_{\text{win}} > 0P\_{\text{win}} > 0

and

Plose>0P\_{\text{lose}} > 0P\_{\text{lose}} > 0

, typically checked by

Plose>0P\_{\text{lose}} > 0P\_{\text{lose}} > 0

due to the formula ensuring equality.

Integration into Heage Betting App

To integrate these bet types into the Heage Betting App, follow these steps:

1. API Fetching Modifications:
   * Update betfair\_api.py and smarkets\_api.py to fetch additional market types. Adjust filters in list\_live\_markets to include OVER\_UNDER\_25, CORRECT\_SCORE, BOTH\_TEAMS\_TO\_SCORE, etc. Ensure APIs retrieve back and lay odds for each outcome.
2. New Methods in strategy\_calculators.py:
   * Implement methods for each bet type following the arbitrage model:
     + calculate\_1x2(back\_odds\_1, lay\_odds\_1, back\_odds\_x, lay\_odds\_x, back\_odds\_2, lay\_odds\_2, stake) for 1X2, checking each outcome.
     + calculate\_over\_under(back\_over\_odds, lay\_over\_odds, back\_under\_odds, lay\_under\_odds, stake) for over/under goals.
     + calculate\_correct\_score(scores\_odds\_dict, stake) for correct score, using a dictionary for multiple outcomes.
   * Each method calculates lay stakes and profits, hedges across outcomes, and returns profit scenarios and profitability status.
3. Data Structure:
   * Use dictionaries for multi-outcome bets (e.g., correct score, HT/FT) to pass odds for each outcome, ensuring flexibility for varying numbers of possibilities.
4. Logging:
   * Extend logging to include new methods, following the existing format, to track calculations and identify issues.
5. Endpoints in enhanced\_backend.py:
   * Add endpoints for each bet type, e.g., /api/strategies/over-under, /api/strategies/correct-score, to expose calculations via API, enhancing user interaction.

Example Implementation Outline

Below is a table summarizing the methods and their parameters for key bet types, illustrating the integration approach:

|  |  |  |  |
| --- | --- | --- | --- |
| **Bet Type** | **Method Name** | **Parameters** | **Outcomes** |
| 1X2 | calculate\_1x2 | back\_odds\_1, lay\_odds\_1, back\_odds\_x, lay\_odds\_x, back\_odds\_2, lay\_odds\_2, stake | Home, Draw, Away |
| Over/Under Goals | calculate\_over\_under | back\_over\_odds, lay\_over\_odds, back\_under\_odds, lay\_under\_odds, stake | Over, Under |
| BTTS | calculate\_btts | back\_yes\_odds, lay\_yes\_odds, back\_no\_odds, lay\_no\_odds, stake | Yes, No |
| Correct Score | calculate\_correct\_score | scores\_odds\_dict, stake | Multiple scores |

This table aids in visualizing the method structure, ensuring clarity for implementation.

Additional Considerations

For bet types with special rules, such as Draw No Bet or Asian Handicap, additional logic is needed. For instance, in Draw No Bet, if the match ends in a draw, the stake is refunded, affecting lay calculations. Similarly, Asian Handicap may involve half-wins or half-losses, requiring specific adjustments.

Commission handling is crucial, especially if both back and lay bets are on exchanges with different rates. The formula provided assumes back odds are from a bookmaker with no commission, but for exchanges, adjust for both commissions in profit calculations.

Conclusion

By implementing these methods and integrating them into the Heage Betting App, users can leverage arbitrage opportunities across various football bet types, enhancing strategic betting capabilities. The approach ensures comprehensive coverage, from API fetching to endpoint exposure, aligning with the user's objective as of 02:53 PM BST on Saturday, April 05, 2025.

Key Citations

* [Back/Lay betting calculator for arbing and trading on betting exchanges](https://backlaybettingcalculator.com/)
* [How to calculate arbitrage betting – Smarkets Help Centre](https://help.smarkets.com/hc/en-gb/articles/115001175531-How-to-calculate-arbitrage-betting)
* [Arbitrage calculator for risk-free online betting on betting exchanges](https://www.arbcruncher.com/)

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