

AYENNA TRAEVER

Ayenna is the broadcasting producer of the 4-yearly Westeros Football Cup. Her **goal** is to maximize the ad revenue (proportional to the population of the hosting city: 0.3% of the population) and minimize the accommodation cost of the crew of 10 (including herself).



Regression task: Due to a recent update in Westeros airbnb's pricing system and a temporary data synchronization issue, the prices for some of the listings are currently unavailable. (This is the hold-out dataset.) Ayenna has still got all information about these airbnbs except the price. Has Ayenna already found the best airbnb for her cause or may this new data have something better for her? (A hosting city needs to meet the following criteria: 4 possible venues, 2 big corporations. Ayenna's airbnb also needs to be able to accommodate her crew. They also need a dedicated workspace.)

Question 1: Which cities have the highest population, ensuring a large local viewership for maximum ad revenues? (*Explanation:* Ayenna would want to broadcast from a city with a large audience to maximize ad revenue.)

Question 2: What are the average prices of Airbnb listings in the top 5 most populated cities? (*Explanation:* She needs to budget for accommodation for the crew in these cities.)

Question 3: Which cities have the most affordable accommodations that still offer amenities (like free Wi-Fi, and dedicated workspace for equipment)? (*Explanation:* Balancing accommodation costs with the necessary amenities for the crew is important.)

Question 4: Which cities have the highest number of large corporations or businesses headquartered (potential sponsors)? (*Explanation:* Proximity to potential sponsors can facilitate better sponsorship deals and additional revenue.)

Question 5: Which cities have the highest average income levels, indicating greater potential for ticket sales and premium ad revenue? (*Explanation:* Cities with higher average income levels might have residents more willing to spend on tickets and advertisers targeting these demographics.)

Question 6: Which cities have the highest number of large stadiums/arenas suitable for holding simultaneous football matches? (*Explanation:* Ayenna needs to identify cities with multiple large venues to accommodate the scale of the event.)

WDYT: If you are trying to forecast how many people are going to need Airbnbs, how could you account for big festivals such as the Westeros Football Cup? How would you make sure that your model performs well on regular days? How would you estimate the effect of such events?