1. The JFK Airport parking lot is always full so the government is planning to expand the parking lot to solve this issue. You are hired by the government as the data consultant to calculate the number of new parking spaces needed. Please list the data you would need and show all the calculation steps if applicable. Explain your reasoning.

2. Let’s assume an e-commerce company came up with a new algorithm for the ‘Similar products’ section on their product detail pages. They would like to conduct an A/B testing to evaluate this new algorithm: a visitor would have a 50/50 chance of being shown a product detailed page implementing the new algorithm, or a product detailed page implementing the old algorithm. You have been assigned as the data analyst for this experiment; please list the key metrics you would use to analyze the AB result and explain why you choose such key metrics.