

## Task 1

1. In this context, I am examining income distribution, where only 10% of people hold a disproportionately large amount of wealth, owning 70% of the nation's wealth. This results in a positive skew in the data, making the use of the median more appropriate as it is most resilient to outliers. It represents the middle value, showing what a typical person earns.
2. Here, I am identifying the most frequently ordered item, which is essential for pinpointing the common value in the data. Therefore, the mode is the best measure for this purpose, as it reveals which menu item appears most often in customer orders.
3. In this case, I am attempting to estimate average usage over time to forecast future spending. Assuming electricity usage remains fairly consistent month to month with fewer outliers, the mean is the most suitable measure, providing a straightforward average usage for my budgeting calculations for the remainder of the year.
4. I am assessing typical healthcare expenditures, but a small number of individuals incur extremely high medical costs. These outliers will distort the mean, raising the average. Thus, the median is preferable here, offering a more accurate representation of what most people spend, similar to example one.

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1. If I want to determine which internet provider provides a more stable connection, I would be more interested in how much the speed fluctuates around the average. Hence, I will look at the standard deviation, which is expressed in the same units as the original data (Mbps). This makes it easier to interpret and directly compare with the mean speed. A lower standard deviation would clearly indicate a more consistent connection, meaning a better stability of the internet connection.
  2. I am reviewing the shuttle process to determine if any services charge too high or too low compared to the typical price. Hence, I would still use standard deviation because it gives me the average distance from the mean in the same unit as the original data. This makes it easier to judge whether the price sways away from the average.