



Interview Questions

Probability & Statistics

Explain the terms 'mean',
'median', and 'mode' to an 8-
year old.

Discussion



It's unlikely that someone interviewing doesn't know about the different types of averages, so this question is really looking to test your communication skills rather than if you get the definitions right (although if you get them wrong that's a red flag).



We recommend keeping the number of subjects simple; you don't want to get tripped up doing the math for the mean or median because you're trying to calculate them for fifty data points.



As a bonus, you can add as we did when you might want to use one instead of another.

Can you explain what a p -value
is to me and how it's used?

Discussion

This question is testing two things: whether you understand what a p -value is and if you can communicate that and how it's used.

There are common misconceptions about the p -value, like that it's the probability a result is a false positive. Unlike the averages question above, it is possible someone gets this wrong.

On the communication side, we recommend using an example to guide the explanation. Data scientists need to be able to communicate with a wide variety of stakeholders, some of whom have never heard of p -values and some who think they understand what they mean but don't.

What is the Central Limit
Theorem and why is it
important?

What is an example of a data set
with a non-Gaussian
distribution?

What are some challenges with
non-Gaussian distributions?

A die is rolled twice. What is the probability of showing a 3 on the first roll and an odd number on the second roll?

In any 15-minute interval, there is a 20% probability that you will see at least one shooting star. What is the probability that you see at least one shooting star in the period of an hour?

How many ways can you split
12 people into 3 teams of 4?

If there is time, can you
derive a general formula?

There are 26 letters in English.

- 1) Can you tell me # of possible combinations of creating 3 letter words when we can use each letter as many time as we want
- 2) And when we can use each letter only once?