Day 13 of 100 Data Science Interview Questions Series!!

The first 50 Question can be found here:
https://www.linkedin.com/posts/alaapdhall_50-of-100-data-science-interview-questions-activity-6716618160969269248-bX5W

Q 56.) What are Interpolation And Extrapolation?

The terms of interpolation and extrapolation are extremely important in any statistical analysis. Extrapolation is the determination or estimation using a known set of values or facts by extending it and taking it to an area or region that is unknown.

The action of estimating or concluding something by assuming that existing trends will continue or a current method will remain applicable. It is the technique of 'inferring' something using data that is available.

Interpolation on the other hand is the method of determining a certain value that falls between a certain set of values or the sequence of values. Interpolation is the process of estimating unknown values that fall between known values.

This is especially useful when you have data at the two extremities of a certain region but you don't have enough data points at a specific point. This is when you deploy interpolation to determine the value that you need.

Q 57.) Do Gradient Descent Methods At All Times Converge To Similar Point?
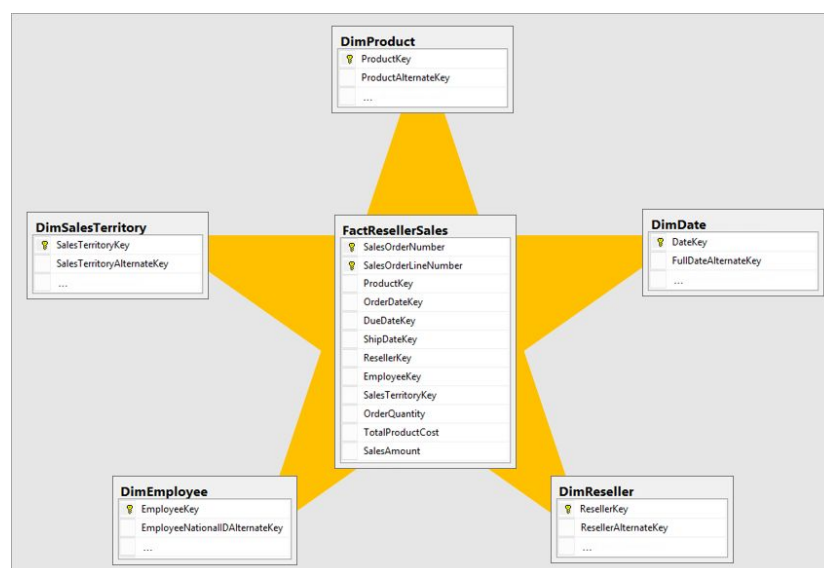
No, they do not because in some cases it reaches a local minima or a local optima point. You will not reach the global optima point. This is governed by the data and the starting conditions.

There are various techniques to make your model converge to global minima. Adding Momentum, or using cyclic learning rates, using Adam (which has both RMS Prop and Momentum) can be helpful at times.

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Q 58.) Explain Star Schema.?

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        It is a traditional database schema with a central table.
Satellite tables map ID's to physical name or description and can be
connected to the central fact table using the ID fields; these tables
are known as lookup tables, and are principally useful in real-time
applications, as they save a lot of memory. Sometimes star schemas
involve several layers of summarization to recover information faster.
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Q 59.) What Is The Goal Of A/b Testing?

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        It is a statistical hypothesis testing for randomized experiments
with two variables A and B. The objective of A/B Testing is to detect
any changes to the web page to maximize or increase the outcome of
interest.

Intuitively, A/B testing (also known as split testing) is the process
of comparing two versions of a web page, email, or other marketing
assets and measuring the difference in performance. You do this by
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giving one version to one group and the other version to another group.
Then you can see how each variation performs.

Q 60.) What Is The Law Of Large Numbers?

It is a theorem that describes the result of performing the same
experiment a large number of times. This theorem forms the basis of
frequency-style thinking. It says that the sample mean, the sample
variance and the sample standard deviation converge to what they are
trying to estimate. Please learn more about Central Limit Theorem to
understand in more detail.

- Alaap Dhall

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