1. CNN – convolutional neural network : what is the math used to calculate the compressed image value - dot product
2. What are link functions – GLM has 3 components, random component- response var, systematic component- linear predictor which is made up of a linear combo, and link function that is usually non linear provides the relationship between the linear predictor and the mean of the distribution **function**. T

\*Link function is the wrapper around the input(linear model) which does a transformation so that it fits the criteria of the response variable

3. A Bernoulli random variable has two possible outcomes: 0 or 11. A binomial distribution is the sum of independent and identically distributed Bernoulli random variables.

4 . why do we use mini batch / pros? – it uses both regular batch gradient and stochastic gradients so it splits the train sample into smaller batches and tests on a batch stochastically and updates the model by batch

5. MLE ( have similar properties to OLS (minimize the error) – MLE – it is consistent and efficient (no other estimator can have a lower MLE)-it will estimate the correct coefficients like OLS,

6. back propagation –  is a method used in [artificial neural networks](https://en.wikipedia.org/wiki/Artificial_neural_network) to calculate a gradient that is needed in the calculation of the weights to be used in the network and communicates backward

7. schema- data modeling frame work

8. kernel density estimator: is a [non-parametric](https://en.wikipedia.org/wiki/Non-parametric_statistics) way to [estimate](https://en.wikipedia.org/wiki/Density_estimation) the [probability density function](https://en.wikipedia.org/wiki/Probability_density_function) of a [random variable](https://en.wikipedia.org/wiki/Random_variable). Kernel density estimation is a fundamental data smoothing problem where inferences about the [population](https://en.wikipedia.org/wiki/Statistical_population) are made, based on a finite data [sample](https://en.wikipedia.org/wiki/Statistical_sample).

9. how do you pull data from sql database from aws