1. Define the Bayesian interpretation of probability.

Answer: Bayesian probability where instead of a frequency, we consider probability values for some phenomenon representing from a state of knowledge or giving a probabilistic number to any phenomenon based on our assumption.

1. Define probability of a union of two events with equation.

Answer: P(AUB) = P(A) + P(B) – P(A n B)

1. What is joint probability? What is its formula?

Answer: Joint probability is the probabilities of 2 independent events and are denoted by 2 different variables storing the 2 different values accordingly.

Let’s calculate the Pr(A given B) = P(A that B has already happened)/ P(B)

1. What is chain rule of probability?

Answer: Chain rule of probability helps us in the calculation of any member of joint distribution of a set of random variables by using conditional probabilities only.

1. What is conditional probability means? What is the formula of it?

Answer: Conditional probability for an event is probability of an event where probability of one event’s occurance is completely dependent due to its relationship with an another event.

1. What are continuous random variables?

Answer: These are those variables which contain integer or floating point values which do not lie in a particular range or are not categorical in nature in any way possible.

1. What are Bernoulli distributions? What is the formula of it?

Answer: A Bernoulli distribution is the discrete probability function where a random experiment has only 2 possible outcomes which are success or failure.

Formula for this is p^x \* (1-p)^(1-x)

1. What is binomial distribution? What is the formula?

Answer: A binomial distribution can be thought of as probability of event of success or failure which is repeated multiple times

The formula for same is nCx\* p^x \* (1-p)^n-x

1. What is Poisson distribution? What is the formula?

Answer: It is a discrete probability distribution that expresses the probability of a given number of events occurring in a fixed interval of time if these events occur with a constant mean rate and it is independent of the last occurance of the event.

1. Define covariance.

Answer: Covariance is a measure of the joint variability of 2 random variables

1. Define correlation

Answer: Corelation is measure of how strong is the relationship between the 2 variables/features/columns present in the dataset.

1. Define sampling with replacement. Give example.

Answer: Mostly when we need to calculate measures of central tendency like mean, median or mode, we sample some values from population to calculate them and we do allow repetition of values for the same. This is called sampling of values without replacement.

1. What is sampling without replacement? Give example.

Answer: Mostly when we need to calculate measures of central tendency like mean, median or mode, we sample some values from population to calculate them and we do not allow repetition of values for the same. This is called sampling of values without replacement.

1. What is hypothesis? Give example.

Answer: A hypothesis is an assumption, an idea that is proposed for the sake of argument so that it can be tested to see if it might be true.