Difference between maximum likelihood estimation and Bayesian estimation:

Maximum Likelihood Estimation (MLE): MLE aims to find the parameter values that maximize the likelihood function, which measures the probability of observing the given data under the assumed statistical model.It does not require any prior knowledge or assumptions about the parameters. MLE provides point estimates of the parameters, meaning it gives a single value for each parameter.

Bayesian Estimation:Bayesian estimation incorporates prior knowledge or beliefs about the parameters into the analysis.It calculates the posterior distribution of the parameters given the observed data and the prior distribution using Bayes' theorem. Bayesian estimation provides a full distribution of the parameters, representing uncertainty about their values. This distribution is called the posterior distribution. It allows for the incorporation of prior information, which can be especially useful when dealing with limited data or when there is prior knowledge about the parameters.

In summary, while both MLE and Bayesian estimation aim to estimate the parameters of a model, they differ in their treatment of prior information and in the nature of the output they provide (point estimates for MLE and a full posterior distribution for Bayesian estimation).