It is important to accurately estimate rainfall for effective use of water resources and optimal planning of water structures. For this purpose, the models were developed to estimate rainfall in Isparta using the data-mining process. The different input combinations having 1-, 2-, 3- and 4-input parameters were tried using the rainfall values of Senirkent, Uluborlu, Eğirdir, and Yalvac, stations in Isparta. The most appropriate algorithm was determined as multilinear regression among the models developed with various data-mining algorithms. The input parameters of Multilinear Regression model were the monthly rainfall values of Senirkent, Uluborlu and Eğirdir stations. The relative error of this model was calculated as 0.7%. It was shown that the data mining process can be used in estimation of missing rainfall values.