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Assignment 2 | Deep Learning

The elbow method is a popular way to find the most optimal number of clusters for a dataset. The technique utilizes distortion, which can be defined as the average of the squared distances from the cluster centers. In order to find these distances, the Euclidean distance formula is also utilized. When plotting these, the point of inflection on the curve is commonly known as the *elbow* and is a typical indication of the optimal k value.

In our implementation, the elbow method will take two parameters, the array of data and the maximum number for k. From there the function will calculate the distortion for k from 1 to k. Then the function will calculate the slope between the two consecutive k values. To return the k value, it will either choose the k value where the slope difference is less than 0.1 or it will return the maximum k value passed. The code utilizes 10 as the maximum number for k.