# Clustering candies

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## 1. The First Section

The clustering process begins by reading the image, any image will be rezised to a especific size, that being for aplying some basics filters in order to remove the noise and to have a reasonable time without mattering the initial resolution of the image. Then the algorithm will try with different K values with a Kmeans clustering, saving it's asociated error when applied to the resized image. The different error values will be compared with each other and the break point will be chosen via the elbow method by calculating the angle after each iteration. and the first to be bigger than a certain angle, would be the assigned K for the final clusterization.

Once the K is decided, the fit is made and for each cluster the original image will be classifed, making an image with only the given cluster colorized, making possible to take the conotours of that subimage and know how many candies of each cluster are there, being one of those cluster the one with major area, normally being the background so it's ignored.