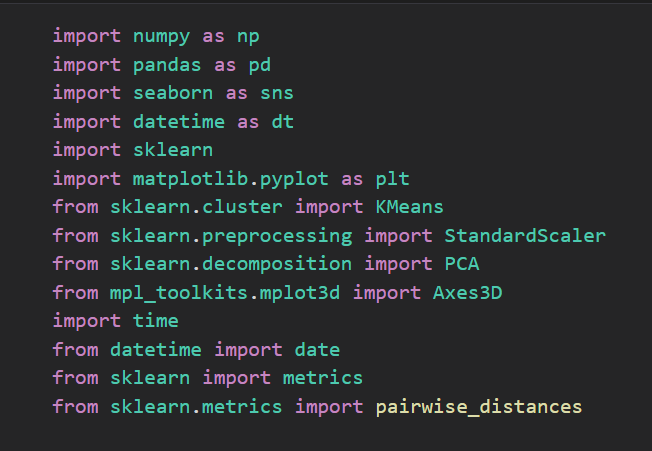
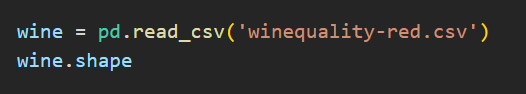
**Computational Intelligence  
R e d W i n e - Q u a l i t y**

**CHRISTIAN J H PAKPAHAN  
5025201153**

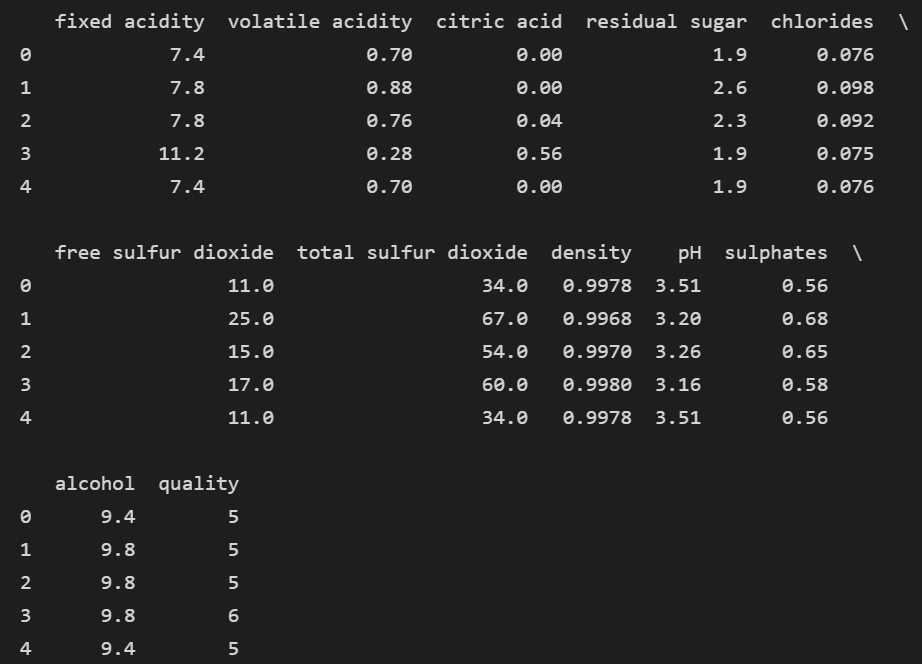
**Source Code**

****

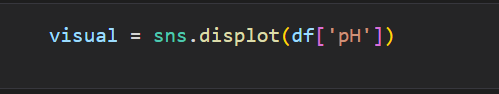
**Step 1 add the library and import the file (csv) into the code. After rhat,   
use function :**

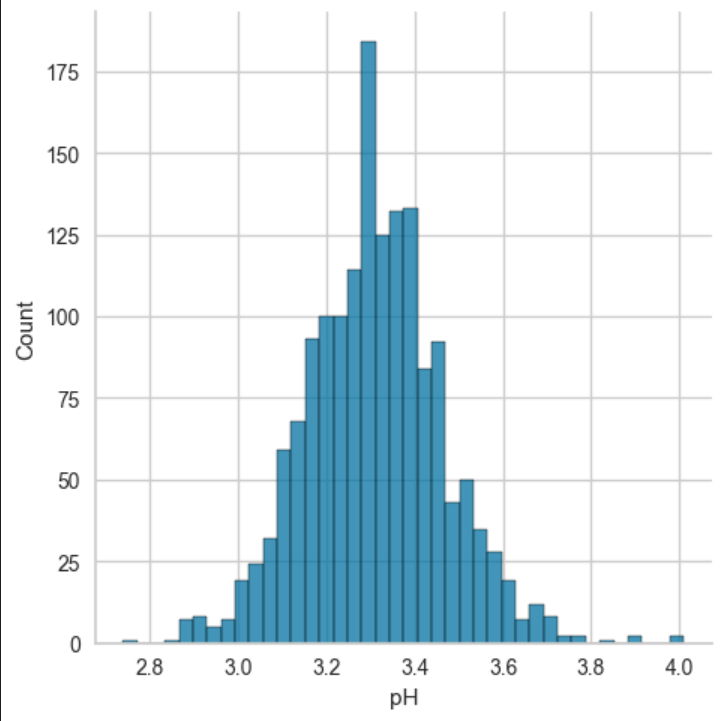
****

And print the data with function ‘print’. It will show the data that we imported from file csv

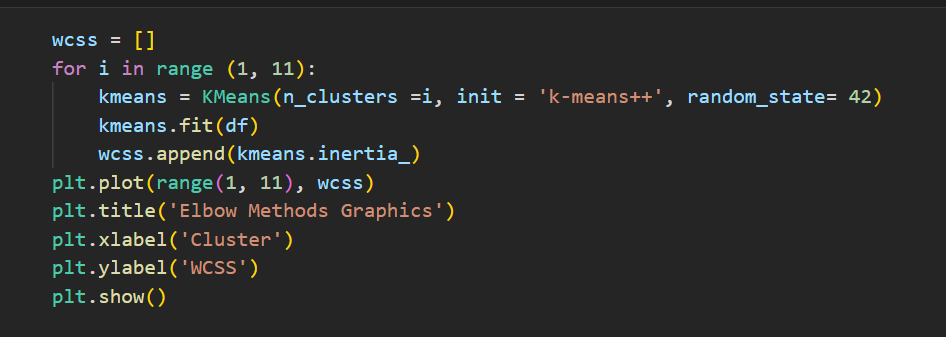
****

**Now , in this code we make chart pH and will be show the chart below.**

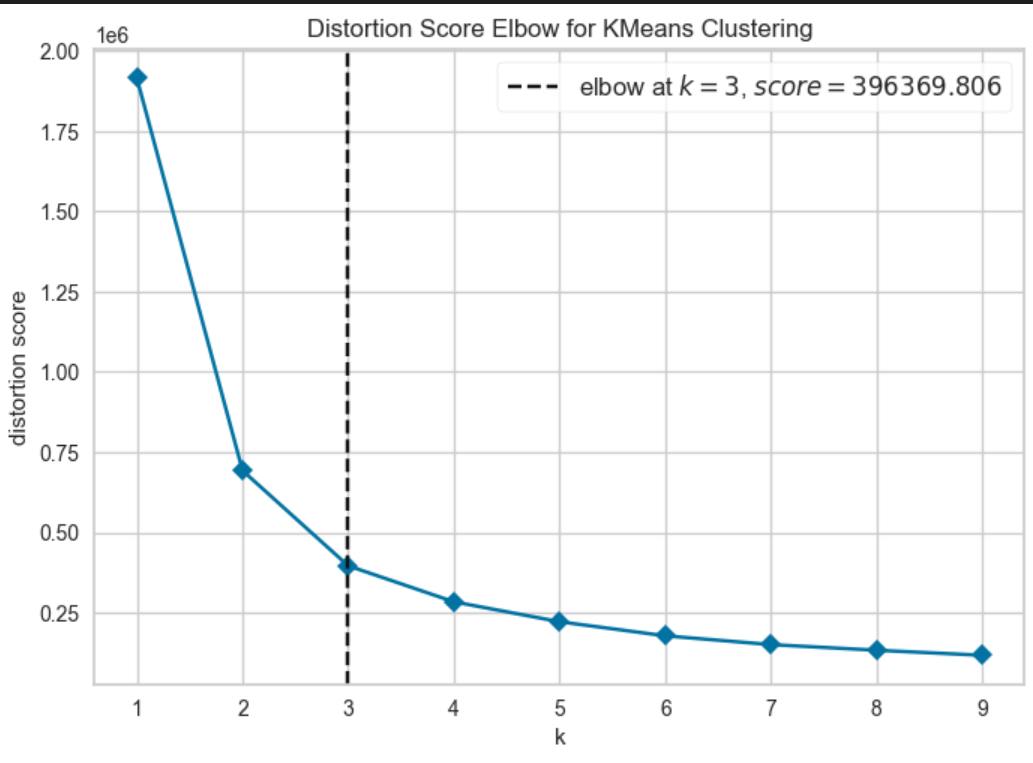
****

****

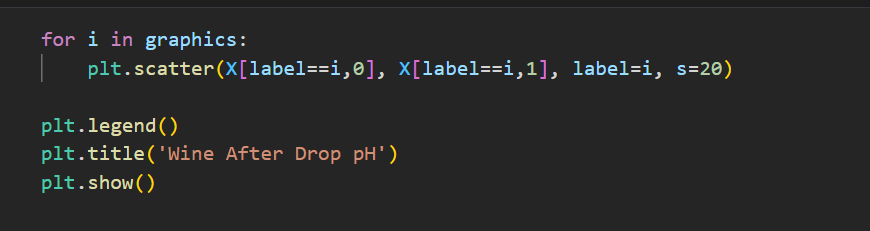
Make the Elbow methods and have inertia value with ‘wcss.append(kmeans.inertia\_)’

****

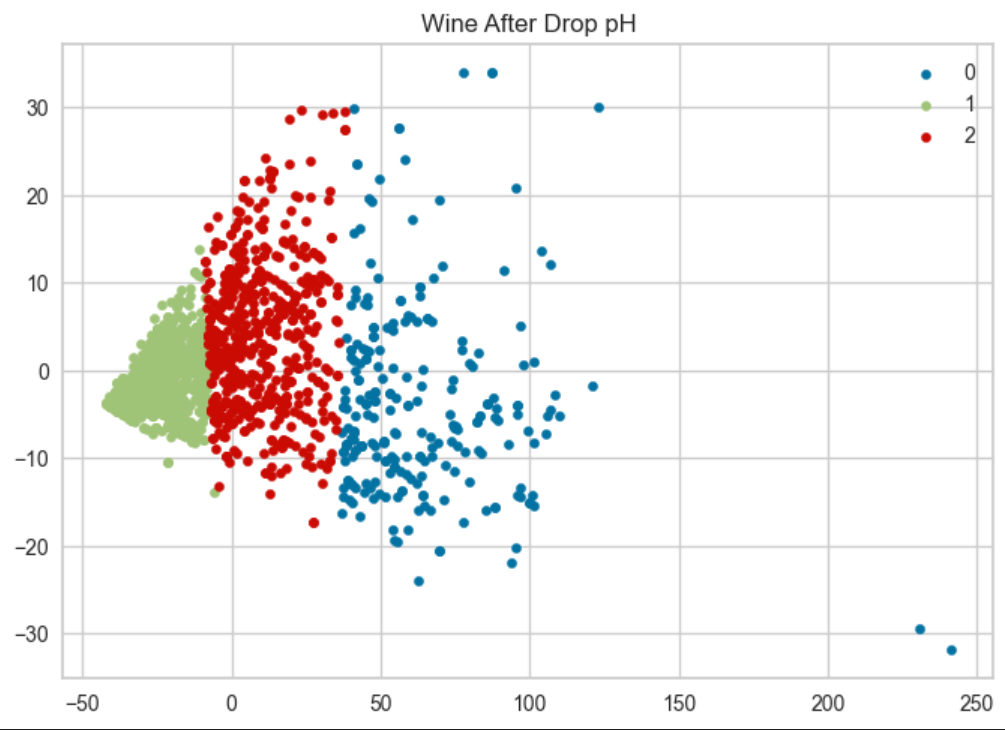
With the result :

****

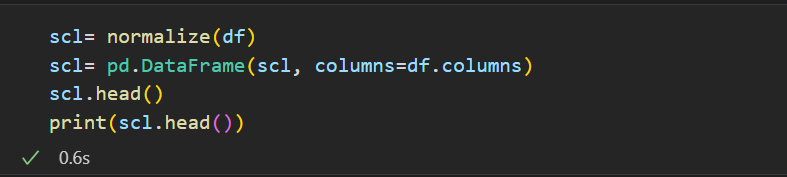
Take the Graphic to clustering dot value in label with size 20

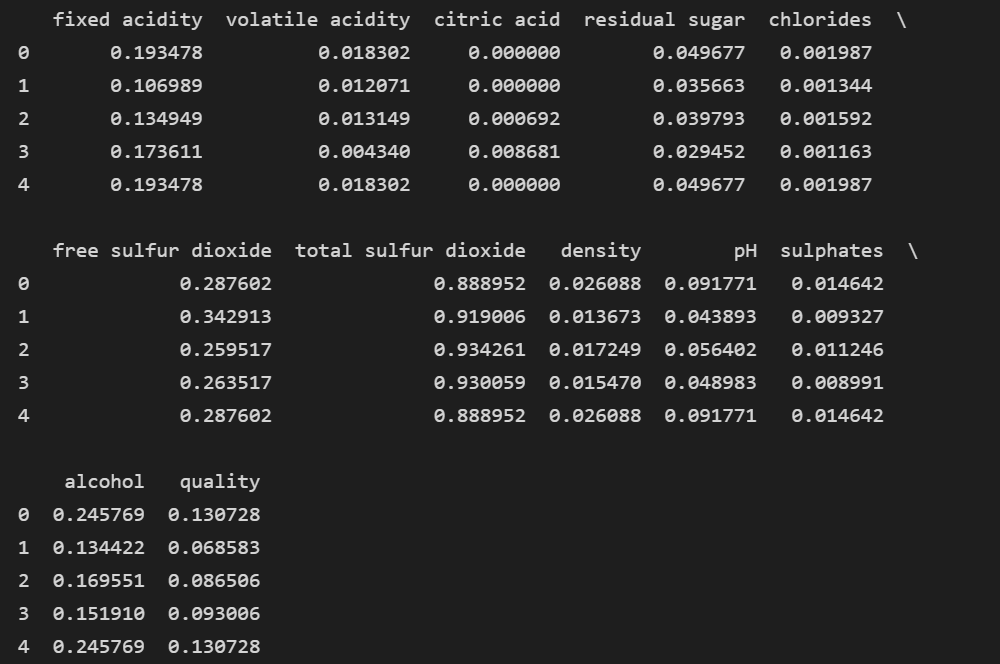
****

The result

****

**And make this code to normalize data**

****



To cluster distance using average linkage



Cluster distance using this complete methode :



Cluster distance using this single methode :

