Create a Jupyter notebook file that demonstrates clustering on the wine dataset using Hierarchical Clustering (Agglomerative Clustering) and KMeans. You may use the iris_clustering.ipynb as a guide/template.

1. Select only two features from the list below. Create a dataframe with those two features from the wine dataset, and use that dataframe for the rest of the exercise

   Total Phenols
   Flavanoids
   Proanthocyanins
   Wine Dilution

2. Dendrogram
   a. Plot the dendrogram based on the two features you chose. What is a possible y value that will give you 4 clusters? Show your answer by plotting a horizontal line on the dendrogram.
   b. Perform agglomerative clustering on your dataset for 4 clusters and plot the results.
3. KMeans
   a. Silhouette Score
      i. Get the best k for your dataset based on the silhouette scores from k=2 to k=16. Print your answer and its silhouette score.
      ii. Perform KMeans from the best k you induced, and plot the results.
   b. Elbow Method
      i. Compute and plot the inertias for k=2 to k=16.
      ii. Which k is the possible inflection point (“elbow”) in the graph? Show your answer by plotting a vertical line for the k-value.
      iii. Perform KMeans from the k value you chose, and plot the results.
      iv. Is the k from the elbow method consistent with the k from the silhouette score? (You can put your answer in the last cell of your Jupyter notebook)