Please write a program to perform one of the following tasks on the IRIS data.

1. k-means clustering algorithm

In IRIS data every sample was labeled with a class of flower among three. Please perform clustering with three clusters, and compare the clustering result with the class labels and have a few discussions.

1. t-SNE for reducing every samples as 2D points

The 4D samples of IRIS dataset could be converted into 2D points through t-SNE algorithm, which may be further visualized on a plane. Please perform t-SNE to produce 2D points, and use three colors corresponding to the class labels to display the 2D points.

請編寫一個程式來對IRIS數據執行以下任務之一。

k-means 聚類演算法

在IRIS數據中，每個樣本都用三朵花中的一類標記。請對三個聚類進行聚類分析，並將聚類結果與類標籤進行比較，並進行一些討論。

t-SNE 用於將每個樣品減少為 2D 點

IRIS數據集的4D樣本可以通過t-SNE演算法轉換為2D點，並在平面上進一步可視化。請執行 t-SNE 生成 2D 點，並使用類標籤對應的三種顏色顯示 2D 點。