

Project4

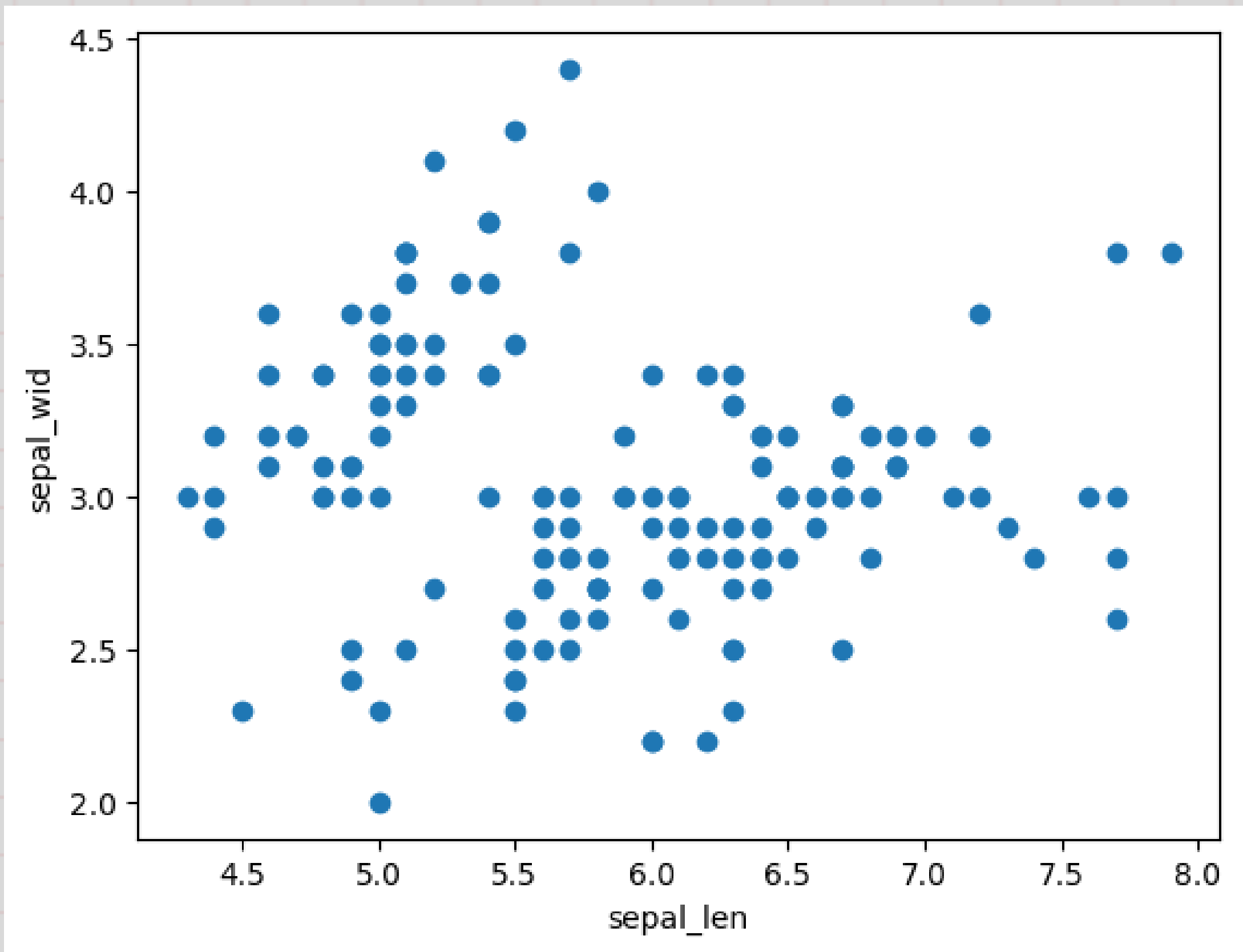
Machine Learning Models on the Iris Dataset





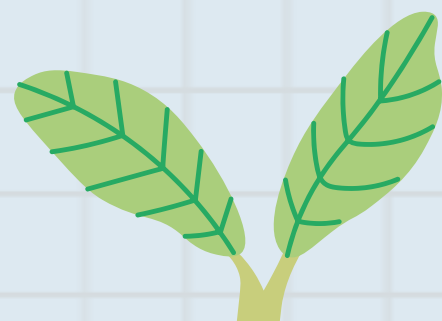
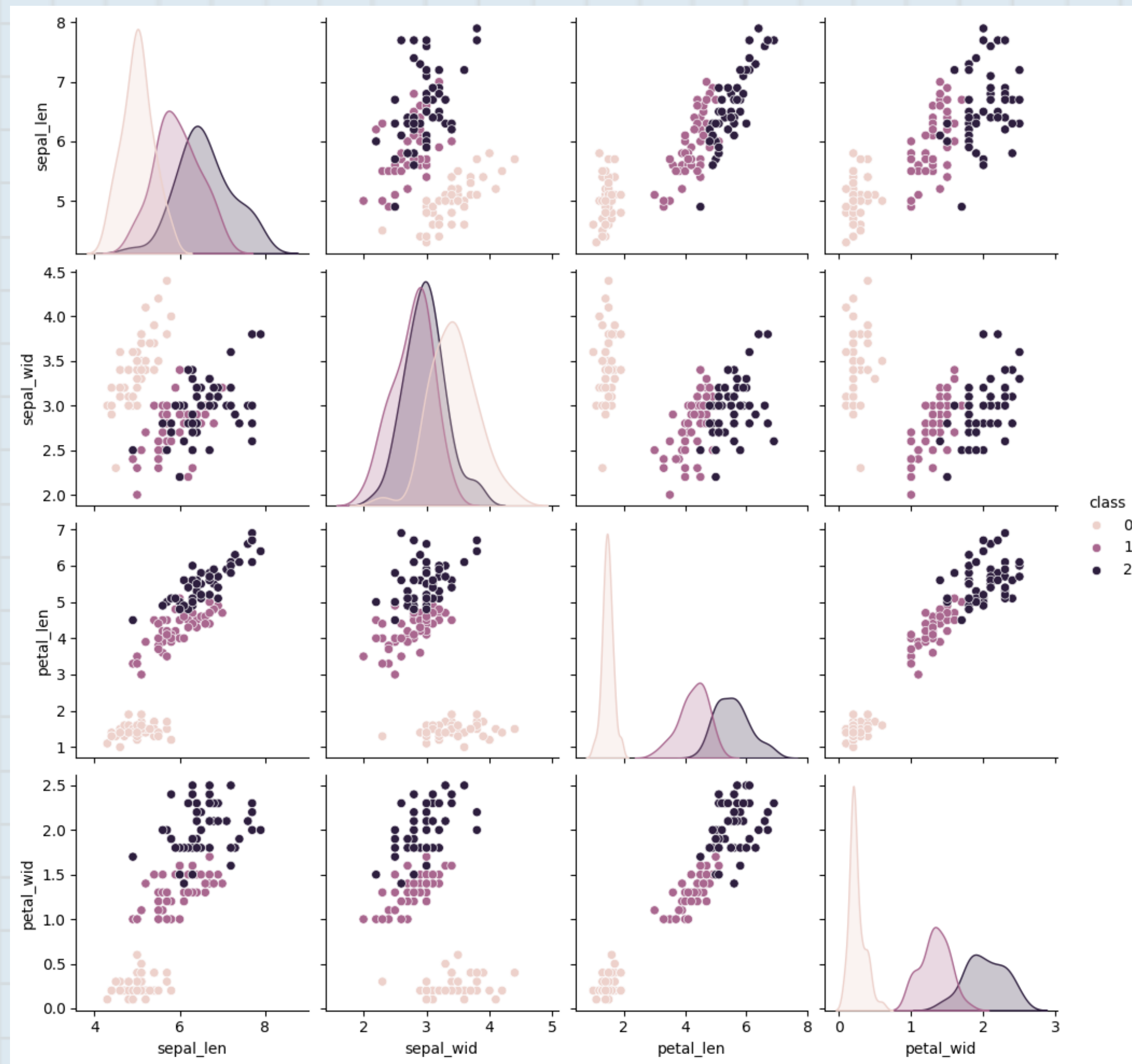
#Conclusion and recommendations...



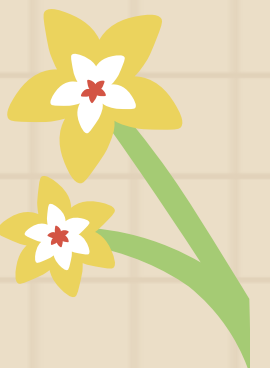
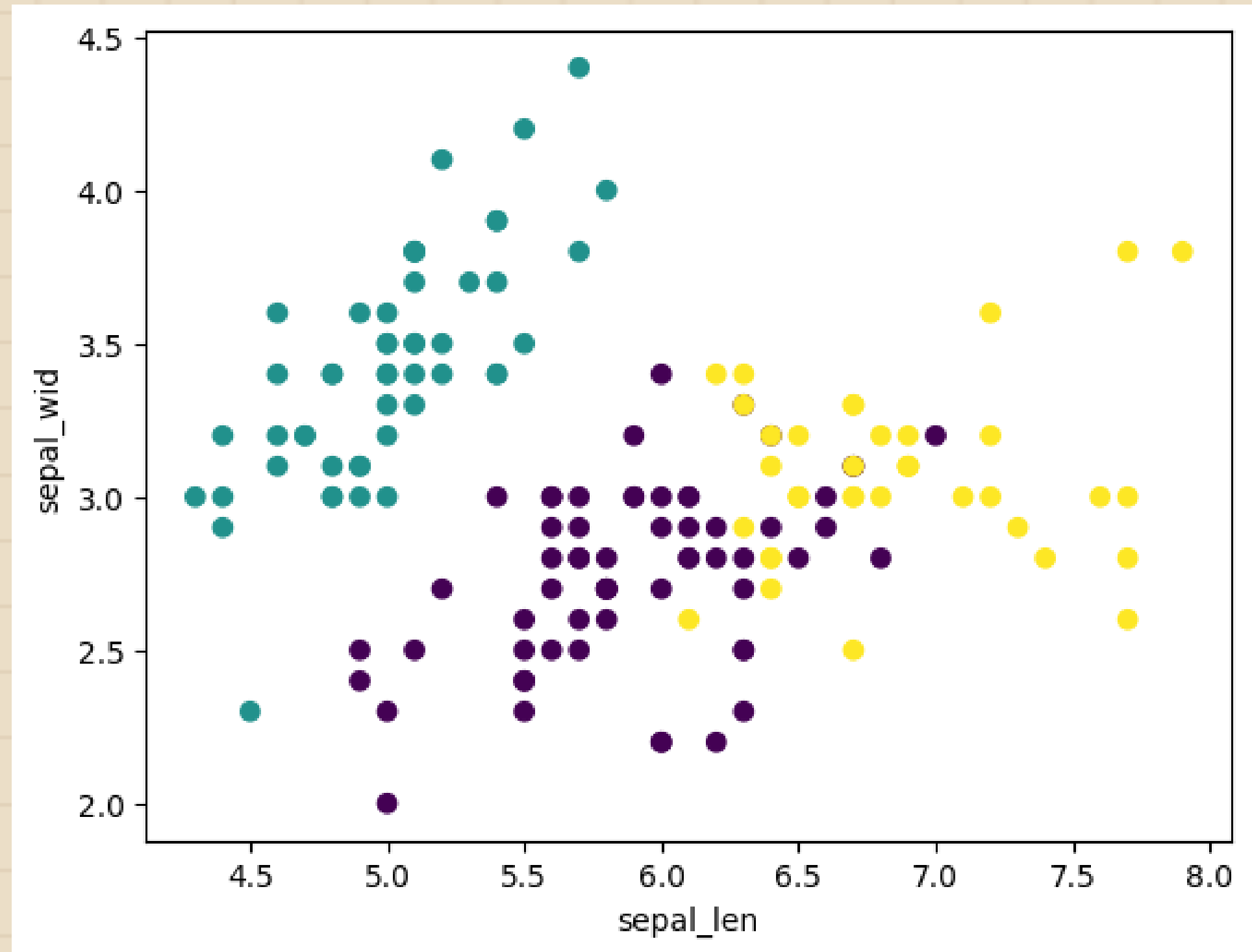
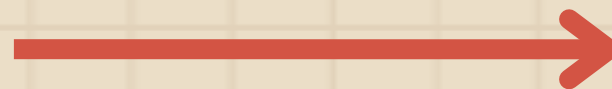


visualization!





Visualize the
clusters



The Report..

- 1 - We downloaded the Iris dataset using “datasets” from the “sklearn” library.
- 2 - The data set was divided into the independent variables (features) and the dependent variable (target).
- 3 -The "pairplot" graph was drawn using the seaborn library. Each pair of variables in the group is displayed as a graph, and the points are colored according to the values of the “class” column, which helps distinguish the different classes.
- 4 - Check for empty values in the data frame

- 5 - Explore and print the expected results of applying the K-means algorithm, detect outliers in Iris data, and calculate the average via Silhouette Score
- 6 - The classifiers and pipelines lists were defined, where three different algorithms (Decision Tree, K- Nearest Neighbors, and Support Vector Machine)
 - Cross-validation was used to evaluate the performance of each algorithm
 - Also take the result of the best algorithm.





- 8 - Parameter grids were defined, and grid search was performed for each classifier to find the best hyperparameters. The best estimator, best parameters, and best accuracy score were obtained and printed for each classifier.
- 9 - An ensemble model is created using VotingClassifier, it is trained using the training data, and the accuracy of the ensemble model is calculated and printed.

Names of trainees;

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