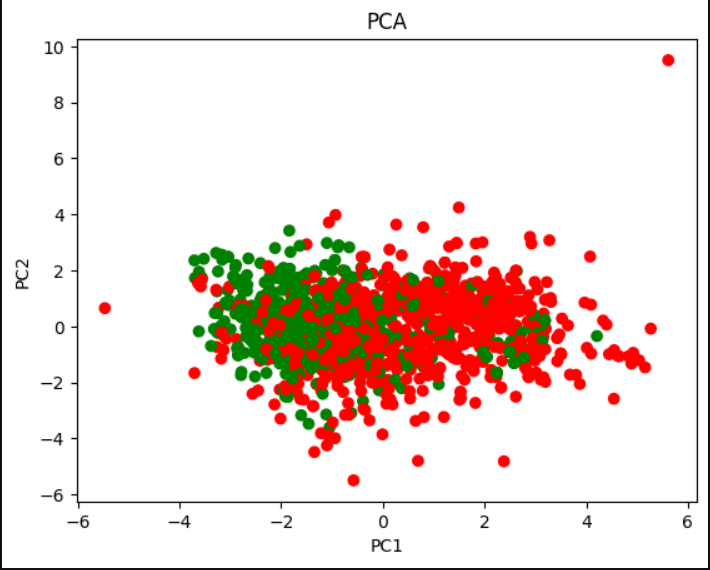
COMP30027 assignment 1 2024

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Q2:

1. The accuracy of 1-NN classifier on the wine dataset is approximately 0.764.
2. Despite the decent accuracy of the 1-NN classifier, the dataset presents challenges that make it less suitable for this method. The dataset's high dimensionality diminishes the significance of 'distance,' complicating classifications based solely on the nearest neighbor in 1-NN. Moreover, the scatterplot indicates a lack of clear clustering within the attributes, leading to difficulties for 1-NN as it relies on distinct class boundaries. Additionally, even after applying Principal Component Analysis, the features fail to show clear clustering patterns, further highlighting the dataset's limitations for 1-NN classification.

A red and green dots

Description automatically generated

Q3: