

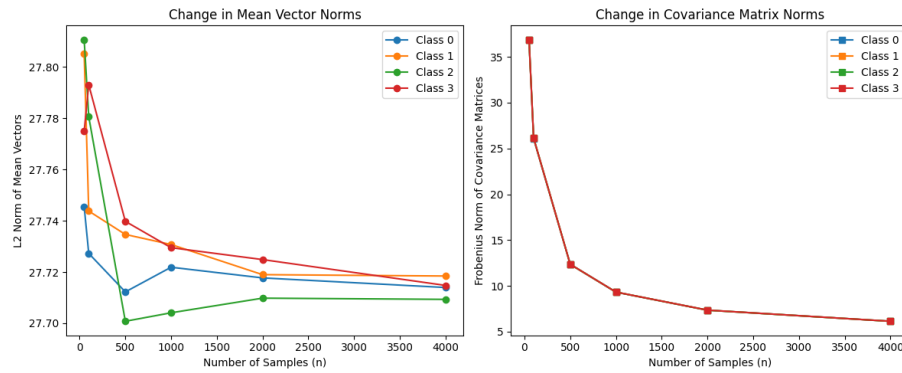
# AI ML ASSIGNMENT 01

PIYUSH KUMAR SRNO- 23801

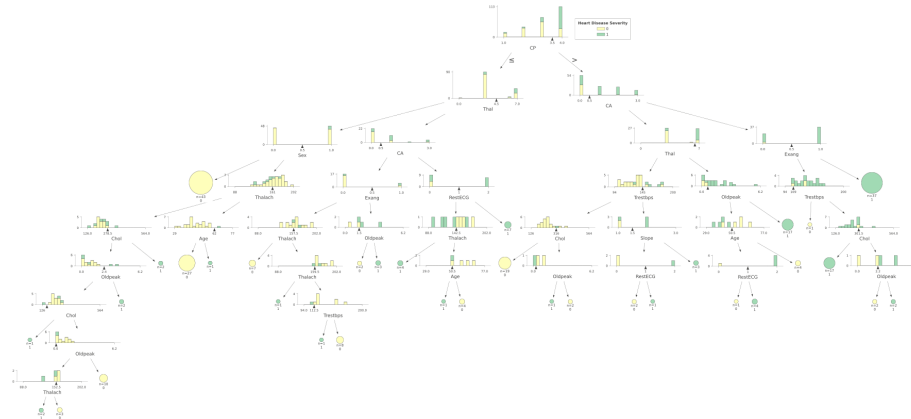
07 March 2025

**Question 1** Estimation is a core branch of statistics. The FLD ‘estimates’ the class conditional mean and variance with the samples in the dataset. We study how the estimates change with the number of samples chosen. For each class, study the change in the estimates with  $n=50, 100, 500, 1000, 2000, 4000$ . Report this with a plot of the 2 norms of the mean vectors for each class and the Frobenius Norm of the covariance matrices for each class. if

*solution*



**Question 3** *Solution*



**Question 2** {solution

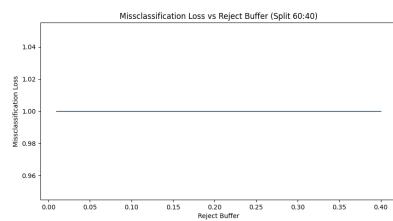


Figure 1: