**ML ASSIGNMENT 6**

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**Video link:**

**https://drive.google.com/file/d/1QczmG1r5PFkdpCvW8Li02-0u3mH2XxSl/view?usp=sharing**

1) (Provide only mathematical solutions for this question) Six points with the following attributes are given, calculate and find out clustering representations and dendrogram using Single, complete, and average link proximity functions in hierarchical clustering technique.

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Chart, box and whisker chart

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Chart, histogram, box and whisker chart

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Chart, box and whisker chart

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2) Use CC\_GENERAL.csv given in the folder and apply a) Preprocess the data by removing the categorical column and filling the missing values. b) Apply Standard Scaler() and normalize() functions to scale and normalize raw input data. c) Use PCA with K=2 to reduce the input dimensions to two features. d) Apply Agglomerative Clustering with k=2,3,4 and 5 on reduced features and visualize result for each k value using scatter plot. e) Evaluate different variations using Silhouette Scores and Visualize results with a bar chart.

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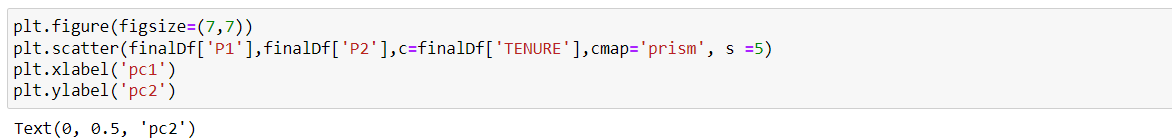
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