Lab Digital Assignment 2

Programme Name & Branch : **MSc Data Science**
Slot(s) : **L27+L28,L33+L34** Class Number : **VL2024250504652,VL2024250504655**
Course Code : **PMDS604P** Course Name : **Exploratory Data Analysis Lab**

General Instruction(s): *Prepare your Lab Digital Assignment in Python using Jupyter Notebook, and convert it to a PDF file for upload to VTOP.*

Task: Perform Principal Component Analysis (PCA) for dimensionality reduction on all the provided datasets in the lab. Analyze and explain how effective PCA is for each dataset based on the variance explained and the quality of the reduced dimensions. Create appropriate plots (such as scree plots and scatter plots of principal components) to visualize the results. Interpret the plots and extract meaningful insights from the dimension-reduced data. Document your steps and justify your conclusions.

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