School of Computer Science Engineering and Technology

Course- BTech
Course Code- CSET-214
Year- 2024-25
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Type- Specialization Core
Course Name- Data Analysis using Python
Semester- Odd
Batch-

Lab # No. (7) Correlation and Normalization

CO Mapping

Lab No.	Name	CO1	CO2	CO3
7	**Correlation and Normalization**	➹	➹	➹

1. a) Compute the Z-score for following data points without using built-in function.

   X= 10,20,30,5,50

   b) Calculate the Z-score for the following data points using the built-in function of scipy.

   c) Calculate the Z-score for the following data points

   data = [[10, 20, 30, 5, 50],

   [12, 11, 10, 34, 21]]

2. a) Compute the Pearson correlation coefficient between two list without using built-in function.

   X = [1, 20, 3, 40, 50]

   Y = [15, 25, 35, 45, 55]

   b) Compute the Pearson correlation coefficient between two list by using built-in function.

   list1 = [1, 20, 3, 40, 50]

   list2 = [15, 25, 35, 45, 55]

   c) Compute the Pearson correlation coefficient between two column mpg and weight of Auto_Weight_mpg dataset.

   d) Compute the correlation of column "Duration" against all other columns in Bio_data.csv dataset.

   3. a) Normalize the following data points using Min-max normalization without using built in function.

   data = [10, 20, 30, 40, 50]

   b) Normalize each column of the Bio Data.csv dataset using Min-Max normalization.

   c) Normalize the following data points using Min-max normalization.

   data = [10, 20, 30, 40, 50]