Week 3 Assignment – Part 2

DataFrame Questions

Questions 1:

Creating a DataFrame from a Dictionary - Write a Pandas program to create a dataframe from a dictionary and display it.

Sample data: {'X':[78,85,96,80,86], 'Y':[84,94,89,83,86],'Z':[86,97,96,72,83]}

Question 2:

DataFrame with Specified Index Labels. Write a Pandas program to create and display a DataFrame from a specified dictionary data which has the index labels.

Sample DataFrame:

exam_data = {'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew', 'Laura', 'Kevin', 'Jonas'],

'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19],

'attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1],

'qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']}

labels = ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j']

Question 2.1 [Same DataFrame as Question 2]

DataFrame Basic Summary Information

Question 2.2 [Same DataFrame as Question 2]

Selecting the First 3 Rows

Question 2.3 [Same DataFrame as Question 2]

Selecting 'name' and 'score' Columns - Write a Pandas program to select the 'name' and 'score' columns from the following DataFrame.

Question 2.4 - [Same DataFrame as Question 2]

Selecting Specific Columns and Rows - Select 'name' and 'score' columns in rows 1, 3, 5, 6 from the given data frame.

Question 2.5 [Same DataFrame as Question 2]

Write a Pandas program to select the rows where the number of attempts in the examination is greater than 2.

Question 2.6 [Same DataFrame as Question 2]

Write a Pandas program to count the number of rows and columns of a DataFrame.

Question 2.7 [Same DataFrame as Question 2]

Write a Pandas program to select the rows the score is between 15 and 20 (inclusive).

Question 2.8 [Same DataFrame as Question 2]

Write a Pandas program to select the rows where number of attempts in the examination is less than 2 and score greater than 15.

Question 2.9 [Same DataFrame as Question 2]

Write a Pandas program to change the score in row 'd' to 11.5.

Question 2.10 [Same DataFrame as Question 2]

Write a Pandas program to calculate the mean of all students' scores. Data is stored in a dataframe.

Question 2.11 [Same DataFrame as Question 2]

Write a Pandas program to append a new row 'k' to data frame with given values for each column. Now delete the new row and return the original DataFrame.

Question 2.12 [Same DataFrame as Question 2]

Write a Pandas program to sort the DataFrame first by 'name' in descending order, then by 'score' in ascending order.

Question 2.13[Same DataFrame as Question 2]

Write a Pandas program to replace the 'qualify' column contains the values 'yes' and 'no' with True and False.

Question 2.14 [Same DataFrame as Question 2]

Write a Pandas program to change the name 'James' to 'Suresh' in name column of the DataFrame.

Question 2.15 [Same DataFrame as Question 2]

Write a Pandas program to delete the 'attempts' column from the DataFrame.

Question 2.16 [Same DataFrame as Question 2]

Write a Pandas program to write a DataFrame to CSV file using tab separator.