**Note:**

**1) Make a copy of provided colab link for each question**

**2) Write your code & execute with output cell in the colab or notebook**

**3) Share the final submission through  colab link or ipynb file**

**COLAB LINK:**<https://drive.google.com/file/d/1H-Ylf6q8QJpBOdn-dUDxFXYyW4ryLQ41/view?usp=drive_link>

**1. Write python program to convert list to pandas series and perform division operation on list elements using lambda function**

**Constraints:**

**a. Create a list**

**b. Convert list into pandas**

**c. Using lambda function, apply division operation**

**d. Print the result**

**Concepts: pandas, lists, loops**

**Sample Input:**

**enter an element of the list:5**

**enter an element of the list:10**

**enter an element of the list:15**

**enter an element of the list:20**

**enter an element of the list:25**

**Sample Output:**

**Original List:  [5, 10, 15, 20, 25]**

**The Series: 1     5**

**2    10**

**3    15**

**4    20**

**5    25**

**dtype: int64**

**Series after division: 1     2.5**

**2     5.0**

**3     7.5**

**4    10.0**

**5    12.5**

**dtype: float64**

**2. Write a python program to convert tuples to a pandas dataframe.**

**Constraints:**

**a. Import pandas library**

**b. Create tuple**

**c. Apply logic to convert tuple to pandas dataframe**

**d. Print the data frame**

**Concepts: tuples, pandas, loops**

**Sample Input:**

**[('PYTHON', 1),**

**('JAVA', 2),**

**('R', 3),**

**('PHP', 4),**

**('JAVASCRIPT', 5)]**

**Sample Output:**

**PROGRAMMING LANGUAGES  RATING**

**0                PYTHON                          1**

**1                  JAVA                               2**

**2                     R                                  3**

**3                   PHP                               4**

**4            JAVASCRIPT                        5**

**3. Create two data frames one using a for loop and other using list comprehension and merge them. If there are any missing values, replace them and find mean and standard deviation of the resultant dataframe.**

**Constraints:**

**a. Create two data frames, one using a for loop and other using list comprehension**

**b. Print them**

**c. Merge those two data frames such that the resultant dataframe must have some missing values**

**d. Print that dataframe**

**e. Fill the missing values with mean and mode**

**f. Find the mean and standard deviation of the dataframe.**

**Concepts Applied: Pandas, list comprehension, loops**

**Sample Input & Output:**

**The First Dataframe:**

**Col\_1  Col\_2  Col\_3**

**0      0      1      2**

**1      5      6      7**

**2     10     11     12**

**The Second Dataframe:**

**Col\_4  Col\_5**

**0     15     20**

**1     16     21**

**The Dataframe after joining two dataframes:**

**Col\_1  Col\_2  Col\_3  Col\_4  Col\_5**

**0      0      1      2   15.0   20.0**

**1      5      6      7   16.0   21.0**

**2     10     11     12    NaN    NaN**

**The dataframe after filling missing values:**

**Col\_1  Col\_2  Col\_3  Col\_4  Col\_5**

**0      0      1      2   15.0   20.0**

**1      5      6      7   16.0   21.0**

**2     10     11     12   15.5   20.5**

**Mean: Col\_1     5.0**

**Col\_2     6.0**

**Col\_3     7.0**

**Col\_4    15.5**

**Col\_5    20.5**

**dtype: float64**

**Standard Deviation: Col\_1    5.0**

**Col\_2    5.0**

**Col\_3    5.0**

**Col\_4    0.5**

**Col\_5    0.5**

**dtype: float64**