Lab Task Week 10

Objective:

- Explore Data frame
- Slice data frame
- Statistical / Aggregation commands
- Write Dataframe to Excel file.

Note: You need to download the files from BBLearn.

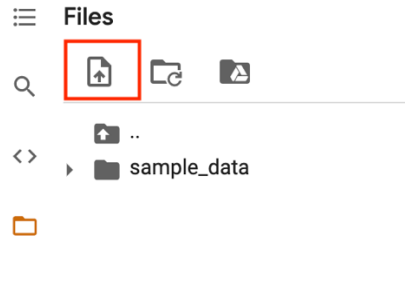
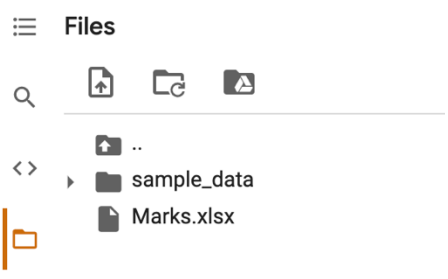
- Lab_Task_10.ipynb and
- Marks.xlsx

Lab Task - 10

1. Open your google chrome browser
2. Go to the website https://colab.research.google.com/
3. Press the Sign in Button on top right and sign in to your google account.
4. Select upload notebook from the File menu and drag/drop the Lab_Task_10.ipynb file from your computer.
5. Click on the files option from the tool menu to add the data file.

Note: Wait till the runtime is connected to see the options of file.

6. Click on the upload option and choose the marks.xlsx to upload it with the project.
   Note: Uploaded files will get deleted when this runtime is recycled. You need to reupload it if runtime is recycled.

1. To upload the data file	2. After data file is added
	

7. From the Runtime select Run All to run all the commands from Week 09 lab.

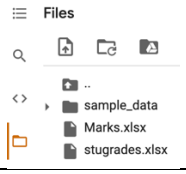
8. Complete the below Lab Tasks and type the code in given space.

a.	Display the number of rows and columns
	`grades.shape`
b.	Display all the columns
	`grades.columns`
c.	Display number of ***divisions*** without any duplicate values
	`len(grades['Division'].unique())`
d.	Display the last 3 rows only
	`grades.tail(3)`
e.	Display all the rows from 5 to 10
	`grades[5:11]`
f.	Using loc command display all the rows from 11 to 20 and columns ***Quiz*** to ***Project***
	`grades.loc[11:20,'Quiz':'Project']`
g.	Display the columns ***ID*** and ***FWA***
	`grades[['ID','FWA']]`
h.	Using iloc command display all the rows from 15 to end and 3rd to 5th column
	`grades.iloc[15:,2:5]`
I	Change the index to ***ID*** permanently and display the data frame
	`grades.set_index('ID',inplace=True)` `grades`
J	Reset the index back to original permanently. Verify it by display the data frame.
	`grades.reset_index(inplace=True)` `grades`

continue in next page.

k	Display the average ***FWA*** marks
	`grades['FWA'].mean()`
L	Display the Statistics Summary for the column ***Project***
	`grades['Project'].describe()`
M	Create a new column 'Final Marks' which is sum of 20% of Quiz, 25% of Practical, 25% of Project and 30% of FWA. Verify the above command to display the data in grades

	`grades['Final Marks'] = grades['Quiz'] * 0.2 + grades['Practical'] * 0.25 + grades['Project'] * 0.25 + grades['FWA'] * 0.3`
	
	`grades`

N	Display the highest value in the column ***Final Marks***
	`grades['Final Marks'].max()`
o	Write the following command to write data into a excel file • Create a excel file **stugrades.xlsx** • Write the data from data frame grades to worksheet **Sheet1** • Save the file Note: The command will create a new excel file stugrades.xlsx in the data folder as shown in below image. 

	`writer = pd.ExcelWriter('stugrades.xlsx')`
	`grades.to_excel(writer,'Sheet1')`
	`writer.save()`

9. Download the notebook to your local computer.