```
#.xlxs excel files
#
#
```

```
import pandas as pd
import numpy as np
import openpyxl as op
```

```
df=pd.read_excel("C:\\Users\\jobin jose\\OneDrive\\Desktop\\NTTF AI ML\\day8\\sample_multi_sheet.x
```

```
df
```

	Sno	Year	Team
0	1	2007	Aus
1	2	2011	Ind
2	3	2015	Aus
3	4	2019	Eng

```
df2=pd.read_excel("C:\\Users\\jobin jose\\OneDrive\\Desktop\\NTTF AI ML\\day8\\sample_multi_sheet.
```

```
df2
```

	Sno	Year	Team
0	1	2021	Aus
1	2	2022	Eng
2	3	2024	Ind

```
df3=pd.read_excel("C:\\Users\\jobin jose\\OneDrive\\Desktop\\NTTF AI ML\\day8\\sample_multi_sheet.
```

```
df3
```

	Sno	Year	Team
0	1	2007	Aus
1	2	2011	Ind
2	3	2015	Aus
3	4	2019	Eng

```
df3.index=["Row1","Row2","Row3","Row4"]
```

```
df3
```

	Sno	Year	Team
Row1	1	2007	Aus
Row2	2	2011	Ind
Row3	3	2015	Aus
Row4	4	2019	Eng

```
df4=pd.read_excel("C:\\Users\\jobin jose\\OneDrive\\Desktop\\NTTF AI ML\\day8\\sample_multi_sheet.
```

```
df4
```

```
{0:    Sno  Year Team
 0    1  2007  Aus
 1    2  2011  Ind
 2    3  2015  Aus
 3    4  2019  Eng,
 1:    Sno  Year Team
 0    1  2021  Aus
 1    2  2022  Eng
 2    3  2024  Ind,
 2:    1  2010      Spain
 0  2  2014    Germany
 1  3  2018     France
 2  4  2022  Argentina}
```

```
df4[1]
```

	Sno	Year	Team
0	1	2021	Aus
1	2	2022	Eng
2	3	2024	Ind

```
df4[0]
```

	Sno	Year	Team
0	1	2007	Aus
1	2	2011	Ind
2	3	2015	Aus
3	4	2019	Eng

```
df5=pd.read_excel("C:\\Users\\jobin jose\\OneDrive\\Desktop\\NTTF AI ML\\day8\\sample_multi_sheet.
```

```
df5
```

```
{'Sheet_WC':    Sno  Year Team
 0    1  2007  Aus
 1    2  2011  Ind
 2    3  2015  Aus
 3    4  2019  Eng,
 'Sheet_CT':    Sno  Year Team
 0    1  2021  Aus
 1    2  2022  Eng
 2    3  2024  Ind,
 'WC':    1  2010      Spain
 0  2  2014    Germany
 1  3  2018     France
 2  4  2022  Argentina}
```

```
df5["Sheet_WC"]
```

	Sno	Year	Team
0	1	2007	Aus
1	2	2011	Ind
2	3	2015	Aus
3	4	2019	Eng

```
df5["Sheet_CT"]
```

	Sno	Year	Team
0	1	2021	Aus
1	2	2022	Eng
2	3	2024	Ind

```
df5["WC"]
```

	1	2010	Spain
0	2	2014	Germany
1	3	2018	France
2	4	2022	Argentina

```
#to_excel( )--can be used to create excel files
```

```
list1=[[1,220,"Spain"],[2,2014,"Germany"]]
df_list1=pd.DataFrame(list1,index=["R1","R2"],columns=["Sl.no","Year","Country"])
```

```
df_list1
```

	Sl.no	Year	Country
R1	1	220	Spain
R2	2	2014	Germany

```
df_list1.to_excel("football_wc.xlsx",index=False)
```

```
df_list1.to_excel("Football_DC_2.xlsx",index=False,header=None)
```

```
##now to write multyple sheet to excel file
```

```
list1= [[1,2010,"Spain"],[2,2014,"Germany"]]
list2 = [[3,2018,"France"], [4,2022,"Argentina"]]
```

```
df_list1
```

	Sl.no	Year	Country
R1	1	220	Spain
R2	2	2014	Germany

```
df_list2 = pd.DataFrame(list2, index=['R1','R2'],columns=['S.No','Year', 'Country'])

with pd.ExcelWriter('class_multi_sheet_write_3.xlsx') as xlwrite:
    df_list1.to_excel(xlwrite,sheet_name="first")
    df_list2.to_excel(xlwrite,sheet_name="second")

print("file created successfully")
```

```
file created successfully
```

```
df_list2
```

	S.No	Year	Country
R1	3	2018	France
R2	4	2022	Argentina

```
list3=[[1,2006,"italy"],[2,2002,"Brazil"]]
```

```
list4=[[1,2026,"India"],[2,2030,"India"]]
```

```
df_list3=pd.DataFrame(list3, index=['R3','R4'],columns=['S.No','Year', 'Country'])
```

```
df_list4=pd.DataFrame(list4, index=['R3','R4'],columns=['S.No','Year', 'Country'])
```

```
with pd.ExcelWriter('class_multi_sheet_write_3.xlsx',mode="a") as xlwrite:
    df_list3.to_excel(xlwrite,sheet_name="third")
    df_list4.to_excel(xlwrite,sheet_name="fourth")

print("file created successfully")
```

```
file created successfully
```

```
list45 = [[1,2010,"Spain"], [2,2014,"Germany"]]
df_list45 = pd.DataFrame( list45, index=["R1","R2"],columns=["C1","C2","C3"])
with pd.ExcelWriter("class_multi_sheet_write_3.xlsx" , mode="a") as xlwrite:
    df_list45.to_excel(xlwrite,sheet_name="fifth" )
print("Contents appended successfully!")
```

```
Contents appended successfully!
```

```
import numpy as np
```

```
obj=np.random.rand(10)
obj=obj.reshape(5,2)
print(obj.shape)
print(obj)
```

```
(5, 2)
[[0.31967467 0.17893984]
 [0.26913605 0.19206591]
 [0.06491672 0.03291072]
 [0.27457044 0.47024798]
 [0.81979408 0.73112674]]
```

```
import pandas as pd
from io import StringIO

# Define the data string with colons as delimiters
data_string = """Name:Gender: Age
Braund: male: 22
Cumings: female:38
Heikkinen: female: 26
Futrelle: female: 35"""

# Use StringIO to convert the string into a file-like object
data = StringIO(data_string)

# Read the data into a pandas DataFrame, specifying the delimiter as colon
df = pd.read_csv(data, delimiter=":")

# Display the DataFrame
print(df)
```

```
      Name   Gender   Age
0    Braund     male    22
1   Cumings   female    38
2  Heikkinen   female    26
3   Futrelle   female    35
```

```
df.sort_index(ascending=False)
```

	Name	Gender	Age
3	Futrelle	female	35
2	Heikkinen	female	26
1	Cumings	female	38
0	Braund	male	22

```
df.sort_index(axis=1)
```

	Age	Gender	Name
0	22	male	Braund
1	38	female	Cumings
2	26	female	Heikkinen
3	35	female	Futrelle

```
df["Age"]= [23,12,56,45]
```

```
df
```

	Name	Gender	Age	Age
0	Braund	male	22	23
1	Cumings	female	38	12
2	Heikkinen	female	26	56
3	Futrelle	female	35	45

```
df.index=["R1","R2","R3","R4"]
```

```
df
```

	Name	Gender	Age	Age
R1	Braund	male	22	23
R2	Cumings	female	38	12
R3	Heikkinen	female	26	56
R4	Futrelle	female	35	45

```
df["Country"]=["US","UK","India","Canada"]
```

```
df.sort_values(by="Age")
```

	Name	Gender	Age	Age	Country
R2	Cumings	female	38	12	UK
R1	Braund	male	22	23	US
R4	Futrelle	female	35	45	Canada
R3	Heikkinen	female	26	56	India

```
df["R5"]=["Rohith","Female",45,12,"India"]
```

```
df
```

	Name	Gender	Age	Age	Country	R5
R1	Braund	male	22	23	US	Rohith
R2	Cumings	female	38	12	UK	Female
R3	Heikkinen	female	26	56	India	45
R4	Rohith	Female	45	12	India	12
R5	Rohith	Female	45	12	India	India

```
df.drop(columns=["R5"])
```

	Name	Gender	Age	Age	Country
R1	Braund	male	22	23	US
R2	Cumings	female	38	12	UK
R3	Heikkinen	female	26	56	India
R4	Rohith	Female	45	12	India
R5	Rohith	Female	45	12	India

```
df.sort_values(by=['Age',"Age"],ascending=False,kind='mergesort')
```

	Name	Gender	Age	Age	Country	R5
R3	Heikkinen	female	26	56	India	45
R1	Braund	male	22	23	US	Rohith
R2	Cumings	female	38	12	UK	Female
R4	Rohith	Female	45	12	India	12
R5	Rohith	Female	45	12	India	India

```
#concatenation in pandas
# concatenation refers to joining two or more panda objects together
#useful in cases where yuiu have to merge data from different sources or data sets
#the function provided to merge in pandas is ---- pd.concat()
#you can concatenate objects in either row values or column_wise manner
```

```
one = pd. DataFrame ({
'Name': ['Alex', 'Amy', 'Allen', 'Alice', 'Ayoung',"rohith" ]
'subject_id': ['sub1', 'sub2','sub4','sub6',"sub8",'sub5'],
'Marks_scored2':[98,90,87,99,69,78]},
index=[1,2,3,4,5,6])

two = pd.DataFrame({
'Name': ['Billy', 'Brian'  ],
'subject_id': ['sub2','sub4'],
```

```
one
```

	Name	subject_id	Marks_scored2
1	Alex	sub1	98
2	Amy	sub2	90
3	Allen	sub4	87
4	Alice	sub6	99
5	Ayoung	sub8	69
6	rohith	sub5	78

```
two
```

	Name	subject_id	Marks_scored
1	Billy	sub2	89
2	Brian	sub4	80

```
result=pd.concat([one,two],axis=0,join="inner")
```

```
result
```

	Name	subject_id
1	Alex	sub1
2	Amy	sub2
3	Allen	sub4
4	Alice	sub6
5	Ayoung	sub8
6	rohith	sub5
1	Billy	sub2
2	Brian	sub4

```
result2=pd.concat([one,two],axis=1,join="inner",ignore_index=False)
```

```
result2
```

	Name	subject_id	Marks_scored2	Name	subject_id	Marks_scored
1	Alex	sub1	98	Billy	sub2	89
2	Amy	sub2	90	Brian	sub4	80

```
Start coding or generate with AI.
```