

```
In [148... # import the required libraries
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
import numpy as np
%matplotlib inline
WData = pd.read_csv("C:\\Users\\oakin\\Documents\\Data Science Udemy\\Python Programming\\WData")
```

```
Out[148]:
```

	DoW	FY2018/19	FY2019/20	FY2020/21	FY2021/22	Total
0	Sunday	39	22	16	35	112
1	Monday	17	23	23	20	83
2	Tuesday	21	19	28	24	92
3	Wednesday	15	26	25	26	92
4	Thursday	23	34	20	34	111
5	Friday	14	30	25	19	88
6	Saturday	21	23	29	27	100

```
In [149... # We need to remove the column names so that the data frame doesn't act like a contiger
x = len(WData.columns)
WData.columns = np.arange(x)
WData
```

```
Out[149]:
```

	0	1	2	3	4	5
0	Sunday	39	22	16	35	112
1	Monday	17	23	23	20	83
2	Tuesday	21	19	28	24	92
3	Wednesday	15	26	25	26	92
4	Thursday	23	34	20	34	111
5	Friday	14	30	25	19	88
6	Saturday	21	23	29	27	100

```
In [150... WData = WData.transpose()
WData
```

Out[150]:

	0	1	2	3	4	5	6
0	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	39	17	21	15	23	14	21
2	22	23	19	26	34	30	23
3	16	23	28	25	20	25	29
4	35	20	24	26	34	19	27
5	112	83	92	92	111	88	100

In [151... *# rename column names and dropping unwanted rows*

```
WData.columns = ['Sunday', 'Monday', 'Tuesday', 'Wednesday', 'Thursday', 'Friday', 'Saturday']
WData = WData.drop(0,0)
```

C:\Users\oakin\AppData\Local\Temp\ipykernel\_18796\1663382788.py:3: FutureWarning: In a future version of pandas all arguments of DataFrame.drop except for the argument 'labels' will be keyword-only.

```
WData = WData.drop(0,0)
```

In [152... 

```
WData = WData.drop(5,0)
WData
```

C:\Users\oakin\AppData\Local\Temp\ipykernel\_18796\1493848559.py:1: FutureWarning: In a future version of pandas all arguments of DataFrame.drop except for the argument 'labels' will be keyword-only.

```
WData = WData.drop(5,0)
```

Out[152]:

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	39	17	21	15	23	14	21
2	22	23	19	26	34	30	23
3	16	23	28	25	20	25	29
4	35	20	24	26	34	19	27

In [153... *#converting data to integer type. it took object type because of the contingency table*

```
WData = WData.astype('int')
WData.info()
```

```
<class 'pandas.core.frame.DataFrame'>
Int64Index: 4 entries, 1 to 4
Data columns (total 7 columns):
#   Column      Non-Null Count  Dtype
---  -
0   Sunday      4 non-null      int32
1   Monday      4 non-null      int32
2   Tuesday     4 non-null      int32
3   Wednesday   4 non-null      int32
4   Thursday    4 non-null      int32
5   Friday      4 non-null      int32
6   Saturday    4 non-null      int32
dtypes: int32(7)
memory usage: 144.0 bytes
```

In [154... 

```
WData.describe().transpose()
```

Out[154]:

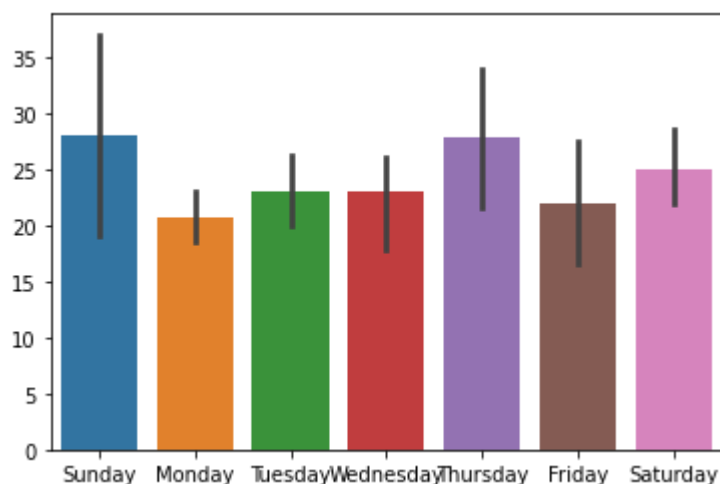
	count	mean	std	min	25%	50%	75%	max
<b>Sunday</b>	4.0	28.00	10.801234	16.0	20.50	28.5	36.00	39.0
<b>Monday</b>	4.0	20.75	2.872281	17.0	19.25	21.5	23.00	23.0
<b>Tuesday</b>	4.0	23.00	3.915780	19.0	20.50	22.5	25.00	28.0
<b>Wednesday</b>	4.0	23.00	5.354126	15.0	22.50	25.5	26.00	26.0
<b>Thursday</b>	4.0	27.75	7.320064	20.0	22.25	28.5	34.00	34.0
<b>Friday</b>	4.0	22.00	6.976150	14.0	17.75	22.0	26.25	30.0
<b>Saturday</b>	4.0	25.00	3.651484	21.0	22.50	25.0	27.50	29.0

```
In [155]: #Creating a field for the fiscal years
WData.insert (7, "FYear", ['FY2018/19', 'FY2019/20', 'FY2020/21', 'FY2021/22'])
WData
```

Out[155]:

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	FYear
<b>1</b>	39	17	21	15	23	14	21	FY2018/19
<b>2</b>	22	23	19	26	34	30	23	FY2019/20
<b>3</b>	16	23	28	25	20	25	29	FY2020/21
<b>4</b>	35	20	24	26	34	19	27	FY2021/22

```
In [194]: # Average plot by DoW- barchart
p = sns.barplot(data = WData)
```



```
In [209]: import scipy.stats as sc
value = sc.f_oneway(WData['Sunday'], WData['Monday'], WData['Tuesday'], WData['Wednesday'], WData['Thursday'], WData['Friday'], WData['Saturday'])
if value[1] <= 0.05:
    print('Reject Null Hypothesis', ",p-vlaue=", value[1])
else:
    print('Accept Null Hypothesis', ",p-vlaue=", value[1])
```

Accept Null Hypothesis ,p-vlaue= 0.5977449512261408

```
In [210]: #-----End of Work-----
```

