DATAFRAME

PIVOT TABLE

ASSIGNMENT

1. CREATE DATAFRAME dfE:

Empno	Name	Department	Salary	Commission	Job
100	Sunita Sharma	RESEARCH	45600	5600.0	CLERK
101	Ashok Singhal	SALES	43900	3900.0	SALESMAN
102	Sumit Avasti	SALES	27000	7000.0	SALESMAN
103	Jyoti Lamba	RESEARCH	45900	4900.0	MANAGER
104	Martin S.	SALES	32500	3500.0	SALESMAN
105	Binod Goel	SALES	45200	4200.0	MANAGER
106	Chetan Gupta	ACCOUNTS	36800	6800.0	MANAGER
107	Sudhir Rawat	RESEARCH	37000	7000.0	ANALYST
108	Kavita Sharma	ACCOUNTS	42900	4900.0	CLERK
109	Tushar Tiwari	SALES	49500	4500.0	MANAGER
110	Anand Rathi	OPERATIONS	41600	8200.0	SR. MANAGER
111	Sumit Vats	RESEARCH	47800	NaN	SR. MANAGER
112	Manoj Kaushik	OPERATIONS	43600	NaN	CLERK

SOL:

```
import pandas as pd
import numpy as np
dfE=pd.DataFrame({'Empno':[100,101,102,103,104,105,106,107,108,109,110,111,112],
                  'Name':['Sunita Sharma','Ashok Singhal',
'Sumit Avasti','Jjyoti Lamba','Martin S.','Binod Goel',
'Chetan Gupta','Sudhir Rawat','Kavita Sharma',
'Tushar Tiwari','Anand Rathi','Sumit Vats','Manoj Kaushik'],
'Department':['RESEARCH','SALES','SALES',
'RESEARCH','SALES','SALES','ACCOUNTS','RESEARCH',
'ACCOUNTS','SALES','OPERATIONS','RESEARCH','OPERATIONS'],
'Salary':[45600,43900,27000,45900,32500,45200,36800,
37000,42900,49500,41600,47800,43600],
'Commission':[5600,3900,7000,4900,3500,4200,6800,7000,
4900,4500,8200,np.nan,np.nan],
```

```
'Job':['CLERK','SALESMAN','SALESMAN','MANAGER',
'SALESMAN','MANAGER','MANAGER','ANALYST','CLERK',
'MANAGER','SR_MANAGER','SR_MANAGER','CLERK']})
'''
index=
[100,101,102,103,104,105,106,107,108,109,110,111,112],
columns=['Empno','Name','Department','Salary',
'Commission','Job'])
'''
print(dfE.to_string(index=False))      # TO REMOVE INDEX 0 ONWARDS
print('*'*40)
```

Q1. #DISPLAY THE DEPARTMENT WISE TOTAL SALARY

```
sum1=pd.pivot_table(dfE,index='Department',values='Salary',aggfunc='sum')
print(sum1)
print('*'*40)
```

Q2.#DISPLAY THE DEPARTMENT WISE AVERAGE SALARY

```
sum2=pd.pivot_table(dfE,index='Department',values='Salary')
print(sum2)
print('*'*40)
```

OR

```
sum3=pd.pivot_table(dfE,index='Department',values='Salary',aggfunc='mean')
print(sum3)
print('*'*40)
```

Q3#DISPLAY THE DEPARTMENT WISE TOTAL AND AVERAGE SALARY

```
sum4=pd.pivot_table(dfE,index='Department',values='Salary',aggfunc=['sum','mean'])
print(sum4)
print('*'*40)
```

Q4#DISPLAY THE DEPARTMENT WISE MAXIMUM AND MINIMUM SALARY

```
sum5=pd.pivot_table(dfE,index='Department',values='Salary',aggfunc=['max','min'])
print(sum5)
print('*'*40)
```

Q5#DISPLAY THE DEPARTMENT AND JOB WISE MAXIMUM SALARY

```
print(dfE.to_string(index=False))
print('*'*40)
sum6=pd.pivot_table(dfE,index=['Department','Job'],values='Salary',aggfunc='max')
print(sum6)
print('*'*40)
```

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