

```
In [38]: import pandas as pd
```

```
In [39]: sql = pd.read_csv(r'D:\Samsom - All Data\Naresh IT Institute\New folder\dataset_1_202506200029.csv')
```

```
In [40]: sql
```

	destination	passanger	weather	temperature	time	coupon	expiration	gender	age	maritalStatus	...	Carry/
0	No Urgent Place	Alone	Sunny	55	2PM	Restaurant(<20)	1d	Female	21	Unmarried partner	...	
1	No Urgent Place	Friend(s)	Sunny	80	10AM	Coffee House	2h	Female	21	Unmarried partner	...	
2	No Urgent Place	Friend(s)	Sunny	80	10AM	Carry out & Take away	2h	Female	21	Unmarried partner	...	
3	No Urgent Place	Friend(s)	Sunny	80	2PM	Coffee House	2h	Female	21	Unmarried partner	...	
4	No Urgent Place	Friend(s)	Sunny	80	2PM	Coffee House	1d	Female	21	Unmarried partner	...	
...	...	...	...	...	...	...	...	...	...	...	...	
12679	Home	Partner	Rainy	55	6PM	Carry out & Take away	1d	Male	26	Single	...	
12680	Work	Alone	Rainy	55	7AM	Carry out & Take away	1d	Male	26	Single	...	
12681	Work	Alone	Snowy	30	7AM	Coffee House	1d	Male	26	Single	...	
12682	Work	Alone	Snowy	30	7AM	Bar	1d	Male	26	Single	...	
12683	Work	Alone	Sunny	80	7AM	Restaurant(20-50)	2h	Male	26	Single	...	

12684 rows × 27 columns



In [41]: `sql.head()`

Out[41]:

	destination	passanger	weather	temperature	time	coupon	expiration	gender	age	maritalStatus	...	CarryAway
0	No Urgent Place	Alone	Sunny	55	2PM	Restaurant(<20)	1d	Female	21	Unmarried partner	...	NaN
1	No Urgent Place	Friend(s)	Sunny	80	10AM	Coffee House	2h	Female	21	Unmarried partner	...	NaN
2	No Urgent Place	Friend(s)	Sunny	80	10AM	Carry out & Take away	2h	Female	21	Unmarried partner	...	NaN
3	No Urgent Place	Friend(s)	Sunny	80	2PM	Coffee House	2h	Female	21	Unmarried partner	...	NaN
4	No Urgent Place	Friend(s)	Sunny	80	2PM	Coffee House	1d	Female	21	Unmarried partner	...	NaN

5 rows × 27 columns

In [42]: `sql.shape`

Out[42]: (12684, 27)

In [43]: `sql[['weather', 'temperature']]`

Out[43]:

	weather	temperature
0	Sunny	55
1	Sunny	80
2	Sunny	80
3	Sunny	80
4	Sunny	80
...	...	...
12679	Rainy	55
12680	Rainy	55
12681	Snowy	30
12682	Snowy	30
12683	Sunny	80

12684 rows × 2 columns

In [7]: `sql.head(10)`

Out[7]:

	destination	passanger	weather	temperature	time	coupon	expiration	gender	age	maritalStatus	...	CarryAway
0	No Urgent Place	Alone	Sunny	55	2PM	Restaurant(<20)	1d	Female	21	Unmarried partner	...	NaN
1	No Urgent Place	Friend(s)	Sunny	80	10AM	Coffee House	2h	Female	21	Unmarried partner	...	NaN
2	No Urgent Place	Friend(s)	Sunny	80	10AM	Carry out & Take away	2h	Female	21	Unmarried partner	...	NaN
3	No Urgent Place	Friend(s)	Sunny	80	2PM	Coffee House	2h	Female	21	Unmarried partner	...	NaN
4	No Urgent Place	Friend(s)	Sunny	80	2PM	Coffee House	1d	Female	21	Unmarried partner	...	NaN
5	No Urgent Place	Friend(s)	Sunny	80	6PM	Restaurant(<20)	2h	Female	21	Unmarried partner	...	NaN
6	No Urgent Place	Friend(s)	Sunny	55	2PM	Carry out & Take away	1d	Female	21	Unmarried partner	...	NaN
7	No Urgent Place	Kid(s)	Sunny	80	10AM	Restaurant(<20)	2h	Female	21	Unmarried partner	...	NaN
8	No Urgent Place	Kid(s)	Sunny	80	10AM	Carry out & Take away	2h	Female	21	Unmarried partner	...	NaN
9	No Urgent Place	Kid(s)	Sunny	80	10AM	Bar	1d	Female	21	Unmarried partner	...	NaN

10 rows × 27 columns

In [8]: `sql['passanger'].unique()`Out[8]: `array(['Alone', 'Friend(s)', 'Kid(s)', 'Partner'], dtype=object)`In [9]: `sql[sql['destination'] == 'Home']`

Out[9]:

	destination	passanger	weather	temperature	time		coupon	expiration	gender	age	maritalStatus	...	Carry/
13	Home	Alone	Sunny	55	6PM		Bar	1d	Female	21	Unmarried partner	...	
14	Home	Alone	Sunny	55	6PM	Restaurant(20-50)		1d	Female	21	Unmarried partner	...	
15	Home	Alone	Sunny	80	6PM	Coffee House		2h	Female	21	Unmarried partner	...	
35	Home	Alone	Sunny	55	6PM		Bar	1d	Male	21	Single	...	
36	Home	Alone	Sunny	55	6PM	Restaurant(20-50)		1d	Male	21	Single	...	
...	...	...	...	...	...	...	...	...	...	...	...	...	
12675	Home	Alone	Snowy	30	10PM	Coffee House		2h	Male	26	Single	...	
12676	Home	Alone	Sunny	80	6PM	Restaurant(20-50)		1d	Male	26	Single	...	
12677	Home	Partner	Sunny	30	6PM	Restaurant(<20)		1d	Male	26	Single	...	
12678	Home	Partner	Sunny	30	10PM	Restaurant(<20)		2h	Male	26	Single	...	
12679	Home	Partner	Rainy	55	6PM	Carry out & Take away		1d	Male	26	Single	...	

3237 rows × 27 columns

In [10]: `sql.sort_values('coupon')`

Out[10]:

	destination	passanger	weather	temperature	time		coupon	expiration	gender	age	maritalStatus	...	Car
<b>11702</b>	Home	Partner	Sunny	30	10PM		Bar	2h	Female	50plus	Married partner	...	
<b>9930</b>	No Urgent Place	Alone	Snowy	30	2PM		Bar	1d	Female	21	Single	...	
<b>10632</b>	Home	Alone	Rainy	55	6PM		Bar	1d	Male	21	Single	...	
<b>7997</b>	No Urgent Place	Friend(s)	Rainy	55	10PM		Bar	2h	Male	26	Unmarried partner	...	
<b>11166</b>	Work	Alone	Snowy	30	7AM		Bar	1d	Female	41	Married partner	...	
...	...	...	...	...	...		...	...	...	...	...	...	
<b>10476</b>	Home	Alone	Sunny	80	6PM	Restaurant(<20)		1d	Female	31	Unmarried partner	...	
<b>5447</b>	Home	Alone	Sunny	80	10PM	Restaurant(<20)		2h	Female	50plus	Single	...	
<b>10478</b>	Home	Alone	Snowy	30	10PM	Restaurant(<20)		2h	Female	31	Unmarried partner	...	
<b>5440</b>	No Urgent Place	Alone	Sunny	80	2PM	Restaurant(<20)		2h	Female	50plus	Single	...	
<b>0</b>	No Urgent Place	Alone	Sunny	55	2PM	Restaurant(<20)		1d	Female	21	Unmarried partner	...	

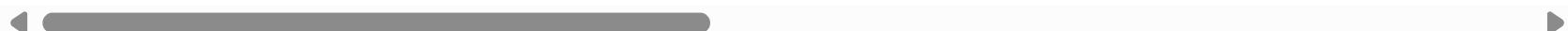
12684 rows × 27 columns

In [11]: `sql.rename(columns={'destination':'Destination'},inplace=True)`In [12]: `sql`

Out[12]:

	Destination	passanger	weather	temperature	time	coupon	expiration	gender	age	maritalStatus	...	Carry...
0	No Urgent Place	Alone	Sunny	55	2PM	Restaurant(<20)	1d	Female	21	Unmarried partner	...	
1	No Urgent Place	Friend(s)	Sunny	80	10AM	Coffee House	2h	Female	21	Unmarried partner	...	
2	No Urgent Place	Friend(s)	Sunny	80	10AM	Carry out & Take away	2h	Female	21	Unmarried partner	...	
3	No Urgent Place	Friend(s)	Sunny	80	2PM	Coffee House	2h	Female	21	Unmarried partner	...	
4	No Urgent Place	Friend(s)	Sunny	80	2PM	Coffee House	1d	Female	21	Unmarried partner	...	
...	...	...	...	...	...	...	...	...	...	...	...	...
12679	Home	Partner	Rainy	55	6PM	Carry out & Take away	1d	Male	26	Single	...	
12680	Work	Alone	Rainy	55	7AM	Carry out & Take away	1d	Male	26	Single	...	
12681	Work	Alone	Snowy	30	7AM	Coffee House	1d	Male	26	Single	...	
12682	Work	Alone	Snowy	30	7AM	Bar	1d	Male	26	Single	...	
12683	Work	Alone	Sunny	80	7AM	Restaurant(20-50)	2h	Male	26	Single	...	

12684 rows × 27 columns

In [13]: `sql.groupby('occupation').size().to_frame('Count').reset_index()`

Out[13]:

	occupation	Count
0	Architecture & Engineering	175
1	Arts Design Entertainment Sports & Media	629
2	Building & Grounds Cleaning & Maintenance	44
3	Business & Financial	544
4	Community & Social Services	241
5	Computer & Mathematical	1408
6	Construction & Extraction	154
7	Education&Training&Library	943
8	Farming Fishing & Forestry	43
9	Food Preparation & Serving Related	298
10	Healthcare Practitioners & Technical	244
11	Healthcare Support	242
12	Installation Maintenance & Repair	133
13	Legal	219
14	Life Physical Social Science	170
15	Management	838
16	Office & Administrative Support	639
17	Personal Care & Service	175
18	Production Occupations	110
19	Protective Service	175
20	Retired	495
21	Sales & Related	1093

	occupation	Count
<b>22</b>	Student	1584
<b>23</b>	Transportation & Material Moving	218
<b>24</b>	Unemployed	1870

```
In [14]: sql.groupby('weather')['temperature'].mean().to_frame('avg_temp').reset_index()
```

```
Out[14]:   weather  avg_temp
0      Rainy  55.000000
1     Snowy  30.000000
2    Sunny  68.946271
```

```
In [15]: sql.groupby('weather')['temperature'].size().to_frame('Count_temp').reset_index()
```

```
Out[15]:   weather  Count_temp
0      Rainy        1210
1     Snowy        1405
2    Sunny        10069
```

```
In [16]: sql.groupby('weather')['temperature'].nunique().to_frame('count_distinct_temp').reset_index()
```

```
Out[16]:   weather  count_distinct_temp
0      Rainy                 1
1     Snowy                 1
2    Sunny                 3
```

```
In [17]: sql.groupby('weather')['temperature'].sum().to_frame('sum_temp').reset_index()
```

Out[17]:

	weather	sum_temp
0	Rainy	66550
1	Snowy	42150
2	Sunny	694220

In [18]:

```
sql.groupby('weather')['temperature'].min().to_frame('min_temp').reset_index()
```

Out[18]:

	weather	min_temp
0	Rainy	55
1	Snowy	30
2	Sunny	30

In [19]:

```
sql.groupby('weather')['temperature'].max().to_frame('max_temp').reset_index()
```

Out[19]:

	weather	max_temp
0	Rainy	55
1	Snowy	30
2	Sunny	80

In [20]:

```
sql.groupby('occupation').filter(lambda x: x['occupation'].iloc[0] == 'Student').groupby('occupation').size()
```

Out[20]:

```
occupation
Student    1584
dtype: int64
```

In [21]:

```
pd.concat([sql, sql])['Destination'].drop_duplicates()
```

```
Out[21]: 0      No Urgent Place
13      Home
16      Work
Name: Destination, dtype: object
```

```
In [23]: sql[sql['passanger'] == 'Alone'][['Destination', 'passanger']]
```

```
Out[23]:      Destination  passanger
0      No Urgent Place      Alone
13      Home      Alone
14      Home      Alone
15      Home      Alone
16      Work      Alone
...
12676      Home      Alone
12680      Work      Alone
12681      Work      Alone
12682      Work      Alone
12683      Work      Alone
```

7305 rows × 2 columns

```
In [24]: sql[sql['weather'].str.startswith('Sun')]
```

Out[24]:

	Destination	passanger	weather	temperature	time	coupon	expiration	gender	age	maritalStatus	...	Carry...
0	No Urgent Place	Alone	Sunny	55	2PM	Restaurant(<20)	1d	Female	21	Unmarried partner	...	
1	No Urgent Place	Friend(s)	Sunny	80	10AM	Coffee House	2h	Female	21	Unmarried partner	...	
2	No Urgent Place	Friend(s)	Sunny	80	10AM	Carry out & Take away	2h	Female	21	Unmarried partner	...	
3	No Urgent Place	Friend(s)	Sunny	80	2PM	Coffee House	2h	Female	21	Unmarried partner	...	
4	No Urgent Place	Friend(s)	Sunny	80	2PM	Coffee House	1d	Female	21	Unmarried partner	...	
...	...	...	...	...	...	...	...	...	...	...	...	...
12673	Home	Alone	Sunny	30	6PM	Carry out & Take away	1d	Male	26	Single	...	
12676	Home	Alone	Sunny	80	6PM	Restaurant(20-50)	1d	Male	26	Single	...	
12677	Home	Partner	Sunny	30	6PM	Restaurant(<20)	1d	Male	26	Single	...	
12678	Home	Partner	Sunny	30	10PM	Restaurant(<20)	2h	Male	26	Single	...	
12683	Work	Alone	Sunny	80	7AM	Restaurant(20-50)	2h	Male	26	Single	...	

10069 rows × 27 columns

In [36]: `sql[(sql['temperature'] >= 29) & (sql['temperature'] <= 75)][['temperature']].unique()`Out[36]: `array([55, 30], dtype=int64)`In [37]: `sql[sql['occupation'].isin(['Sales & Related', 'Management'])][['occupation']]`

Out[37]:

**occupation****193** Sales & Related**194** Sales & Related**195** Sales & Related**196** Sales & Related**197** Sales & Related

...

...

**12679** Sales & Related**12680** Sales & Related**12681** Sales & Related**12682** Sales & Related**12683** Sales & Related

1931 rows × 1 columns

In [ ]:

In [ ]: