Raw1

November 18, 2025

```python
[4]: import pandas as pd
```

```python
[5]: sql = pd.read_csv(r'/Users/mahidharreddy/Downloads/dataset_1_202511180534.csv')
```

```python
[6]: sql
```

```
[6]:            destination  passanger weather  temperature  time  \
     0       No Urgent Place     Alone   Sunny           55   2PM
     1       No Urgent Place  Friend(s)  Sunny           80  10AM
     2       No Urgent Place  Friend(s)  Sunny           80  10AM
     3       No Urgent Place  Friend(s)  Sunny           80   2PM
     4       No Urgent Place  Friend(s)  Sunny           80   2PM
     ...                 ...        ...     ...          ...   ...
     12679              Home    Partner   Rainy           55   6PM
     12680              Work      Alone   Rainy           55   7AM
     12681              Work      Alone   Snowy           30   7AM
     12682              Work      Alone   Snowy           30   7AM
     12683              Work      Alone   Sunny           80   7AM

                        coupon expiration  gender age        maritalStatus  ...  \
     0          Restaurant(<20)        1d  Female  21   Unmarried partner   ...
     1             Coffee House        2h  Female  21   Unmarried partner   ...
     2      Carry out & Take away        2h  Female  21   Unmarried partner   ...
     3             Coffee House        2h  Female  21   Unmarried partner   ...
     4             Coffee House        1d  Female  21   Unmarried partner   ...
     ...                    ...       ...     ...  ..                 ...   ...
     12679  Carry out & Take away        1d    Male  26              Single   ...
     12680  Carry out & Take away        1d    Male  26              Single   ...
     12681           Coffee House        1d    Male  26              Single   ...
     12682                    Bar        1d    Male  26              Single   ...
     12683       Restaurant(20-50)        2h    Male  26              Single   ...

            CarryAway RestaurantLessThan20 Restaurant20To50 toCoupon_GEQ5min  \
     0            NaN                  4~8              1~3                1
     1            NaN                  4~8              1~3                1
     2            NaN                  4~8              1~3                1
     3            NaN                  4~8              1~3                1
     4            NaN                  4~8              1~3                1
```

		...	...		...		...	
...	...		...		...		...	
12679	1~3		4~8		1~3		1	
12680	1~3		4~8		1~3		1	
12681	1~3		4~8		1~3		1	
12682	1~3		4~8		1~3		1	
12683	1~3		4~8		1~3		1	

	toCoupon_GEQ15min	toCoupon_GEQ25min	direction_same	direction_opp	Y	\
0	0	0	0	1	1	
1	0	0	0	1	0	
2	1	0	0	1	1	
3	1	0	0	1	0	
4	1	0	0	1	0	
...	...	...	...	... ..		
12679	0	0	1	0	1	
12680	0	0	0	1	1	
12681	0	0	1	0	0	
12682	1	1	0	1	0	
12683	0	0	1	0	0	

	row_count
0	1
1	2
2	3
3	4
4	5
...	...
12679	12680
12680	12681
12681	12682
12682	12683
12683	12684

[12684 rows x 27 columns]

```
[7]: sql [['weather','temperature']]
```

```
[7]:        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 x 2 columns]
```

[8]: `sql.head(10)`

[8]:
```
      destination  passanger weather  temperature  time  \
0  No Urgent Place      Alone   Sunny           55   2PM
1  No Urgent Place  Friend(s)   Sunny           80  10AM
2  No Urgent Place  Friend(s)   Sunny           80  10AM
3  No Urgent Place  Friend(s)   Sunny           80   2PM
4  No Urgent Place  Friend(s)   Sunny           80   2PM
5  No Urgent Place  Friend(s)   Sunny           80   6PM
6  No Urgent Place  Friend(s)   Sunny           55   2PM
7  No Urgent Place     Kid(s)   Sunny           80  10AM
8  No Urgent Place     Kid(s)   Sunny           80  10AM
9  No Urgent Place     Kid(s)   Sunny           80  10AM

                 coupon expiration  gender age      maritalStatus  … \
0       Restaurant(<20)         1d  Female  21  Unmarried partner  …
1          Coffee House         2h  Female  21  Unmarried partner  …
2  Carry out & Take away         2h  Female  21  Unmarried partner  …
3          Coffee House         2h  Female  21  Unmarried partner  …
4          Coffee House         1d  Female  21  Unmarried partner  …
5       Restaurant(<20)         2h  Female  21  Unmarried partner  …
6  Carry out & Take away         1d  Female  21  Unmarried partner  …
7       Restaurant(<20)         2h  Female  21  Unmarried partner  …
8  Carry out & Take away         2h  Female  21  Unmarried partner  …
9                   Bar         1d  Female  21  Unmarried partner  …

  CarryAway RestaurantLessThan20 Restaurant20To50 toCoupon_GEQ5min  \
0       NaN                  4~8              1~3                1
1       NaN                  4~8              1~3                1
2       NaN                  4~8              1~3                1
3       NaN                  4~8              1~3                1
4       NaN                  4~8              1~3                1
5       NaN                  4~8              1~3                1
6       NaN                  4~8              1~3                1
7       NaN                  4~8              1~3                1
8       NaN                  4~8              1~3                1
9       NaN                  4~8              1~3                1

  toCoupon_GEQ15min toCoupon_GEQ25min direction_same direction_opp  Y  \
0                 0                 0              0             1  1
1                 0                 0              0             1  0
2                 1                 0              0             1  1
```

```
3                  1             0              0             1   0
4                  1             0              0             1   0
5                  1             0              0             1   1
6                  1             0              0             1   1
7                  1             0              0             1   1
8                  1             0              0             1   1
9                  1             0              0             1   0

   row_count
0          1
1          2
2          3
3          4
4          5
5          6
6          7
7          8
8          9
9         10

[10 rows x 27 columns]
```

```
[9]: sql['passanger'].unique()
```

```
[9]: array(['Alone', 'Friend(s)', 'Kid(s)', 'Partner'], dtype=object)
```

```
[10]: sql[sql['destination']=='Home']
```

```
[10]:       destination passanger weather  temperature  time              coupon  \
      13          Home     Alone   Sunny           55   6PM                 Bar
      14          Home     Alone   Sunny           55   6PM   Restaurant(20-50)
      15          Home     Alone   Sunny           80   6PM        Coffee House
      35          Home     Alone   Sunny           55   6PM                 Bar
      36          Home     Alone   Sunny           55   6PM   Restaurant(20-50)
      ...          ...       ...     ...          ...   ...                 ...
      12675       Home     Alone   Snowy           30  10PM        Coffee House
      12676       Home     Alone   Sunny           80   6PM   Restaurant(20-50)
      12677       Home   Partner   Sunny           30   6PM      Restaurant(<20)
      12678       Home   Partner   Sunny           30  10PM      Restaurant(<20)
      12679       Home   Partner   Rainy           55   6PM  Carry out & Take away

            expiration  gender age       maritalStatus  …  CarryAway  \
      13            1d  Female  21   Unmarried partner  …       NaN
      14            1d  Female  21   Unmarried partner  …       NaN
      15            2h  Female  21   Unmarried partner  …       NaN
      35            1d    Male  21              Single  …       4~8
      36            1d    Male  21              Single  …       4~8
```

```
...           ...    ...    ..             ...  ...           ...
12675          2h   Male   26          Single   …           1~3
12676          1d   Male   26          Single   …           1~3
12677          1d   Male   26          Single   …           1~3
12678          2h   Male   26          Single   …           1~3
12679          1d   Male   26          Single   …           1~3

       RestaurantLessThan20 Restaurant20To50 toCoupon_GEQ5min  \
13                      4~8              1~3                1
14                      4~8              1~3                1
15                      4~8              1~3                1
35                      4~8            less1                1
36                      4~8            less1                1
...                     ...              ...              ...
12675                   4~8              1~3                1
12676                   4~8              1~3                1
12677                   4~8              1~3                1
12678                   4~8              1~3                1
12679                   4~8              1~3                1

       toCoupon_GEQ15min toCoupon_GEQ25min direction_same direction_opp  Y  \
13                     0                 0              1             0  1
14                     1                 0              0             1  1
15                     0                 0              0             1  0
35                     0                 0              1             0  1
36                     1                 0              0             1  0
...                   ...               ...            ...           ... ..
12675                  1                 0              0             1  0
12676                  0                 0              1             0  1
12677                  1                 1              0             1  1
12678                  1                 0              1             0  0
12679                  0                 0              1             0  1

       row_count
13            14
14            15
15            16
35            36
36            37
...          ...
12675      12676
12676      12677
12677      12678
12678      12679
12679      12680

[3237 rows x 27 columns]
```

```
[11]: sql.sort_values('coupon')
```

```
[11]:          destination  passanger weather  temperature  time          coupon  \
      11702            Home    Partner   Sunny           30  10PM             Bar
      9930   No Urgent Place     Alone   Snowy           30   2PM             Bar
      10632            Home      Alone   Rainy           55   6PM             Bar
      7997   No Urgent Place  Friend(s)   Rainy          55  10PM             Bar
      11166            Work      Alone   Snowy           30   7AM             Bar
      ...              ...        ...     ...          ...   ...             ...
      10476            Home      Alone   Sunny           80   6PM  Restaurant(<20)
      5447             Home      Alone   Sunny           80  10PM  Restaurant(<20)
      10478            Home      Alone   Snowy           30  10PM  Restaurant(<20)
      5440   No Urgent Place     Alone   Sunny           80   2PM  Restaurant(<20)
      0      No Urgent Place     Alone   Sunny           55   2PM  Restaurant(<20)

            expiration  gender     age      maritalStatus  ... CarryAway  \
      11702         2h  Female  50plus    Married partner  ...       4~8
      9930          1d  Female      21             Single  ...       gt8
      10632         1d    Male      21             Single  ...       gt8
      7997          2h    Male      26  Unmarried partner  ...       4~8
      11166         1d  Female      41    Married partner  ...       gt8
      ...          ...     ...     ...                ...  ...       ...
      10476         1d  Female      31  Unmarried partner  ...       1~3
      5447          2h  Female  50plus             Single  ...     less1
      10478         2h  Female      31  Unmarried partner  ...       1~3
      5440          2h  Female  50plus             Single  ...     less1
      0             1d  Female      21  Unmarried partner  ...       NaN

            RestaurantLessThan20 Restaurant20To50 toCoupon_GEQ5min  \
      11702                  1~3            less1                1
      9930                   gt8              4~8                1
      10632                less1            less1                1
      7997                 never              1~3                1
      11166                  1~3            less1                1
      ...                    ...              ...              ...
      10476                  1~3            less1                1
      5447                 less1            never                1
      10478                  1~3            less1                1
      5440                 less1            never                1
      0                      4~8              1~3                1

            toCoupon_GEQ15min toCoupon_GEQ25min direction_same direction_opp  Y  \
      11702                 1                 1              0             1  0
      9930                  0                 0              0             1  0
      10632                 1                 1              0             1  0
      7997                  1                 0              0             1  1
      11166                 1                 1              0             1  0
```

```
...                        ...              ...            ...            ...  ..
10476                        0                0              1              0  1
5447                         0                0              1              0  0
10478                        1                1              0              1  0
5440                         1                0              0              1  0
0                            0                0              0              1  1

       row_count
11702      11703
9930        9931
10632      10633
7997        7998
11166      11167
...          ...
10476      10477
5447        5448
10478      10479
5440        5441
0              1

[12684 rows x 27 columns]
```

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

```
[12]:           Destination  passanger weather  temperature  time  \
      0      No Urgent Place      Alone   Sunny           55   2PM
      1      No Urgent Place  Friend(s)   Sunny           80  10AM
      2      No Urgent Place  Friend(s)   Sunny           80  10AM
      3      No Urgent Place  Friend(s)   Sunny           80   2PM
      4      No Urgent Place  Friend(s)   Sunny           80   2PM
      ...                ...        ...     ...          ...   ...
      12679             Home    Partner   Rainy           55   6PM
      12680             Work      Alone   Rainy           55   7AM
      12681             Work      Alone   Snowy           30   7AM
      12682             Work      Alone   Snowy           30   7AM
      12683             Work      Alone   Sunny           80   7AM

                          coupon expiration  gender age       maritalStatus  ...  \
      0           Restaurant(<20)         1d  Female  21  Unmarried partner  ...
      1              Coffee House         2h  Female  21  Unmarried partner  ...
      2      Carry out & Take away        2h  Female  21  Unmarried partner  ...
      3              Coffee House         2h  Female  21  Unmarried partner  ...
      4              Coffee House         1d  Female  21  Unmarried partner  ...
      ...                     ...        ...    ...  ..                 ...  ...
      12679  Carry out & Take away        1d    Male  26             Single  ...
      12680  Carry out & Take away        1d    Male  26             Single  ...
```

```
12681          Coffee House      1d    Male  26              Single  …
12682                   Bar      1d    Male  26              Single  …
12683     Restaurant(20-50)      2h    Male  26              Single  …

       CarryAway RestaurantLessThan20 Restaurant20To50 toCoupon_GEQ5min  \
0            NaN                  4~8              1~3                 1
1            NaN                  4~8              1~3                 1
2            NaN                  4~8              1~3                 1
3            NaN                  4~8              1~3                 1
4            NaN                  4~8              1~3                 1
...          ...                  ...              ...               ...
12679        1~3                  4~8              1~3                 1
12680        1~3                  4~8              1~3                 1
12681        1~3                  4~8              1~3                 1
12682        1~3                  4~8              1~3                 1
12683        1~3                  4~8              1~3                 1

       toCoupon_GEQ15min toCoupon_GEQ25min direction_same direction_opp  Y  \
0                      0                 0              0             1  1
1                      0                 0              0             1  0
2                      1                 0              0             1  1
3                      1                 0              0             1  0
4                      1                 0              0             1  0
...                  ...               ...            ...           ... ..
12679                  0                 0              1             0  1
12680                  0                 0              0             1  1
12681                  0                 0              1             0  0
12682                  1                 1              0             1  0
12683                  0                 0              1             0  0

       row_count
0              1
1              2
2              3
3              4
4              5
...          ...
12679      12680
12680      12681
12681      12682
12682      12683
12683      12684

[12684 rows x 27 columns]
```

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

```
[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
      22                                      Student   1584
      23           Transportation & Material Moving    218
      24                                   Unemployed   1870
```

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

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

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

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

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

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

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

```
[17]:   weather  sum_temp
      0   Rainy     66550
      1   Snowy     42150
      2   Sunny    694220
```

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

```
[18]:   weather  min_temp
      0   Rainy        55
      1   Snowy        30
      2   Sunny        30
```

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

```
[19]: occupation
      Student    1584
      dtype: int64
```

```
[20]: # get unique Destination values (column name is 'Destination' with capital D)
      pd.concat([sql, sql])['Destination'].drop_duplicates()
```

```
[20]: 0      No Urgent Place
      13                Home
      16                Work
      Name: Destination, dtype: object
```

```
[24]: sql[sql['passanger'] == 'Alone'][['Destination', 'passanger']]
```

```
[24]:           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 x 2 columns]
```

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

```
[25]:           Destination  passanger weather  temperature  time  \
        0      No Urgent Place      Alone   Sunny          55   2PM
        1      No Urgent Place  Friend(s)   Sunny          80  10AM
        2      No Urgent Place  Friend(s)   Sunny          80  10AM
        3      No Urgent Place  Friend(s)   Sunny          80   2PM
        4      No Urgent Place  Friend(s)   Sunny          80   2PM
        ...                ...        ...     ...          ...   ...
        12673             Home      Alone   Sunny          30   6PM
        12676             Home      Alone   Sunny          80   6PM
        12677             Home    Partner   Sunny          30   6PM
        12678             Home    Partner   Sunny          30  10PM
        12683             Work      Alone   Sunny          80   7AM


                          coupon expiration  gender  age     maritalStatus  ...  \
        0          Restaurant(<20)        1d  Female   21  Unmarried partner  ...
        1             Coffee House        2h  Female   21  Unmarried partner  ...
        2      Carry out & Take away       2h  Female   21  Unmarried partner  ...
        3             Coffee House        2h  Female   21  Unmarried partner  ...
        4             Coffee House        1d  Female   21  Unmarried partner  ...
        ...                    ...       ...     ...   ..                ...  ...
        12673  Carry out & Take away       1d    Male   26             Single  ...
        12676      Restaurant(20-50)       1d    Male   26             Single  ...
        12677        Restaurant(<20)       1d    Male   26             Single  ...
        12678        Restaurant(<20)       2h    Male   26             Single  ...
        12683      Restaurant(20-50)       2h    Male   26             Single  ...


               RestaurantLessThan20 Restaurant20To50 toCoupon_GEQ5min  \
        0                      4~8              1~3                1
        1                      4~8              1~3                1
        2                      4~8              1~3                1
        3                      4~8              1~3                1
        4                      4~8              1~3                1
        ...                    ...              ...              ...
        12673                  4~8              1~3                1
        12676                  4~8              1~3                1
        12677                  4~8              1~3                1
        12678                  4~8              1~3                1
        12683                  4~8              1~3                1


               toCoupon_GEQ15min toCoupon_GEQ25min direction_same direction_opp  Y  \
        0                      0                 0              0             1  1
        1                      0                 0              0             1  0
        2                      1                 0              0             1  1
        3                      1                 0              0             1  0
        4                      1                 0              0             1  0
        ...                  ...               ...            ...           ... ..
        12673                  0                 0              0             1  0
```

```
12676              0              0              1        0  1
12677              1              1              0        1  1
12678              1              0              1        0  0
12683              0              0              1        0  0

       row_count part_of_day
0              1   Afternoon
1              2     Morning
2              3     Morning
3              4   Afternoon
4              5   Afternoon
...          ...         ...
12673      12674   Afternoon
12676      12677   Afternoon
12677      12678   Afternoon
12678      12679   Afternoon
12683      12684     Morning

[10069 rows x 28 columns]
```

[27]:
```python
sql[(sql['temperature'] >= 29) & (sql['temperature'] <= 75)]['temperature'].
 ↪unique()
```

[27]:
```
array([55, 30])
```

[28]:
```python
sql[sql['occupation'].isin(['Sales & Related', 'Management'])][['occupation']]
```

[28]:
```
          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 x 1 columns]
```

[ ]:

[ ]: