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#Data Analysis weekly challenges 1 - Chipotle Sales

# Link to dataset: Link to dataset: https://raw.githubusercontent.com/justmarkham/DAT8

# Challenge Questions

# Which was the most-ordered item?
# For the most-ordered item, how many items were ordered?
# What was the most ordered item in the choice_description column?
# How many items were ordered in total?
# Turn the item price into a float
# How much was the revenue for the period in the dataset?
# How many orders were made in the period?
# What is the average revenue amount per order?
# How many different items are sold?
```

In [1]:
```python
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
```

In [2]:
```python
url = 'https://raw.githubusercontent.com/justmarkham/DAT8/master/data/chipotle.tsv'
chipo = pd.read_csv(url, sep = '\t')
```

In [3]:
```python
chipo.head()
```

Out[3]:

	order_id	quantity	item_name	choice_description	item_price
0	1	1	Chips and Fresh Tomato Salsa	NaN	$2.39
1	1	1	Izze	[Clementine]	$3.39
2	1	1	Nantucket Nectar	[Apple]	$3.39
3	1	1	Chips and Tomatillo-Green Chili Salsa	NaN	$2.39
4	2	2	Chicken Bowl	[Tomatillo-Red Chili Salsa (Hot), [Black Beans...	$16.98

In [54]:
```python
chipo.describe()
```

Out[54]:

	order_id	quantity	item_price
count	4622.000000	4622.000000	4622.000000
mean	927.254868	1.075725	7.464336
std	528.890796	0.410186	4.245557
min	1.000000	1.000000	1.090000
25%	477.250000	1.000000	3.390000
50%	926.000000	1.000000	8.750000
75%	1393.000000	1.000000	9.250000
max	1834.000000	15.000000	44.250000

```
In [15]:   #Which was the most-ordered item?
           chipo.groupby('item_name')['order_id'].nunique().sort_values(ascending=False)
           #Answer: Chicken Bowl with 615 orders
```

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Out[15]:   item_name
           Chicken Bowl                              615
           Chicken Burrito                           489
           Chips and Guacamole                       474
           Steak Burrito                             342
           Canned Soft Drink                         276
           Chips                                     208
           Steak Bowl                                188
           Bottled Water                             154
           Chips and Fresh Tomato Salsa              110
           Chicken Soft Tacos                        107
           Side of Chips                             101
           Chicken Salad Bowl                         98
           Canned Soda                                94
           Veggie Burrito                             91
           Barbacoa Burrito                           88
           Veggie Bowl                                82
           Carnitas Bowl                              67
           Barbacoa Bowl                              61
           Carnitas Burrito                           58
           Steak Soft Tacos                           54
           6 Pack Soft Drink                          54
           Chips and Tomatillo Red Chili Salsa        46
           Chicken Crispy Tacos                       45
           Chips and Tomatillo Green Chili Salsa      43
           Carnitas Soft Tacos                        38
           Steak Crispy Tacos                         35
           Chips and Tomatillo-Green Chili Salsa      31
           Steak Salad Bowl                           28
           Nantucket Nectar                           26
           Barbacoa Soft Tacos                        25
           Chips and Roasted Chili Corn Salsa         22
           Chips and Tomatillo-Red Chili Salsa        19
           Veggie Salad Bowl                          18
           Chips and Roasted Chili-Corn Salsa         18
           Izze                                       17
           Barbacoa Crispy Tacos                      11
           Barbacoa Salad Bowl                         9
           Chicken Salad                               9
           Carnitas Crispy Tacos                       7
           Veggie Soft Tacos                           7
           Veggie Salad                                6
           Carnitas Salad Bowl                         6
           Burrito                                     4
           Steak Salad                                 4
           Bowl                                        2
           Salad                                       1
           Crispy Tacos                                1
           Chips and Mild Fresh Tomato Salsa           1
           Carnitas Salad                              1
           Veggie Crispy Tacos                         1
           Name: order_id, dtype: int64
```

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In [14]:   #For the most-ordered item, how many items were ordered?
           chipo.groupby('item_name')['quantity'].sum().sort_values(ascending=False)
```

Out[14]:
```
item_name
Chicken Bowl                              761
Chicken Burrito                           591
Chips and Guacamole                       506
Steak Burrito                             386
Canned Soft Drink                         351
Chips                                     230
Steak Bowl                                221
Bottled Water                             211
Chips and Fresh Tomato Salsa              130
Canned Soda                               126
Chicken Salad Bowl                        123
Chicken Soft Tacos                        120
Side of Chips                             110
Veggie Burrito                             97
Barbacoa Burrito                           91
Veggie Bowl                                87
Carnitas Bowl                              71
Barbacoa Bowl                              66
Carnitas Burrito                           60
Steak Soft Tacos                           56
6 Pack Soft Drink                          55
Chips and Tomatillo Red Chili Salsa        50
Chicken Crispy Tacos                       50
Chips and Tomatillo Green Chili Salsa      45
Carnitas Soft Tacos                        40
Steak Crispy Tacos                         36
Chips and Tomatillo-Green Chili Salsa      33
Steak Salad Bowl                           31
Nantucket Nectar                           29
Chips and Tomatillo-Red Chili Salsa        25
Barbacoa Soft Tacos                        25
Chips and Roasted Chili Corn Salsa         23
Izze                                       20
Veggie Salad Bowl                          18
Chips and Roasted Chili-Corn Salsa         18
Barbacoa Crispy Tacos                      12
Barbacoa Salad Bowl                        10
Chicken Salad                               9
Carnitas Crispy Tacos                       8
Veggie Soft Tacos                           8
Burrito                                     6
Veggie Salad                                6
Carnitas Salad Bowl                         6
Bowl                                        4
Steak Salad                                 4
Salad                                       2
Crispy Tacos                                2
Chips and Mild Fresh Tomato Salsa           1
Carnitas Salad                              1
Veggie Crispy Tacos                         1
Name: quantity, dtype: int64
```

In [24]:
```
#What was the most ordered item in the choice_description column?
chipo.groupby('choice_description').nunique().sort_values('order_id',ascending=False)
chipo[chipo['choice_description']=='[Diet Coke]']['item_name'].unique()
```

Out[24]: array(['Canned Soda', '6 Pack Soft Drink', 'Canned Soft Drink'],
              dtype=object)

In [56]: #How many items were ordered in total?
         chipo.quantity.sum()
         #5K

Out[56]: 4972

In [49]: #Turn the item price into a float
         chipo['item_price']
         chipo['item_price'].str.replace('$','',regex=True).astype(float)

Out[49]: 0   2.39
         1   3.39
         2   3.39
         3   2.39
         4   16.98
                ...
         4617   11.75
         4618   11.75
         4619   11.25
         4620   8.75
         4621   8.75
         Name: item_price, Length: 4622, dtype: float64

In [50]: chipo

Out[50]:
	order_id	quantity	item_name	choice_description	item_price
0	1	1	Chips and Fresh Tomato Salsa	NaN	2.39
1	1	1	Izze	[Clementine]	3.39
2	1	1	Nantucket Nectar	[Apple]	3.39
3	1	1	Chips and Tomatillo-Green Chili Salsa	NaN	2.39
4	2	2	Chicken Bowl	[Tomatillo-Red Chili Salsa (Hot), [Black Beans...	16.98
...	...	...	...	...	...
4617	1833	1	Steak Burrito	[Fresh Tomato Salsa, [Rice, Black Beans, Sour ...	11.75
4618	1833	1	Steak Burrito	[Fresh Tomato Salsa, [Rice, Sour Cream, Cheese...	11.75
4619	1834	1	Chicken Salad Bowl	[Fresh Tomato Salsa, [Fajita Vegetables, Pinto...	11.25
4620	1834	1	Chicken Salad Bowl	[Fresh Tomato Salsa, [Fajita Vegetables, Lettu...	8.75
4621	1834	1	Chicken Salad Bowl	[Fresh Tomato Salsa, [Fajita Vegetables, Pinto...	8.75

4622 rows × 5 columns

```
In [61]:   #How much was the revenue for the period in the dataset?
           chipo['ext_ret_price']=chipo['item_price']*chipo['quantity']
           chipo.ext_ret_price.sum()
           #4K

Out[61]:   39237.02
```

```
In [55]:   #How many orders were made in the period?

           chipo.order_id.nunique()
           #2K

Out[55]:   1834
```

```
In [57]:   #How many different items are sold?
           chipo.item_name.nunique()
           #50 items were ordered in total

Out[57]:   50
```

```
In [62]:   #What is the average revenue amount per order?
           revenue=chipo.ext_ret_price.sum()
           order_count=chipo.order_id.nunique()
           aov=revenue/order_count
           aov
           #$21

Out[62]:   21.39423118865867
```

```
In [79]:   common_match = chipo.groupby('order_id')['item_name'].unique().astype(str).value_count
           #.unique()
           #.astype(str).value_counts()
           #common_match.apply(pd.DataFrame)
           common_match

Out[79]:   ['Chicken Bowl' 'Chips and Guacamole']                                          68
           ['Chicken Bowl']                                                               61
           ['Chicken Burrito']                                                            51
           ['Chicken Burrito' 'Chips and Guacamole']                                      37
           ['Steak Burrito' 'Chips and Guacamole']                                        26
                                                                                          ..
           ['Veggie Burrito' 'Carnitas Crispy Tacos']                                      1
           ['Barbacoa Bowl' 'Veggie Bowl']                                                 1
           ['Veggie Burrito' 'Veggie Crispy Tacos']                                        1
           ['Chicken Burrito' 'Chicken Soft Tacos'\n 'Chips and Roasted Chili Corn Salsa']  1
           ['Carnitas Bowl' 'Chips' 'Bottled Water']                                        1
           Name: item_name, Length: 788, dtype: int64
```

```
In [ ]:
```