Challenge 1: Chipotle Sales

Scenario

I'm a financial data analyst at Chipotle and my manager has tasked me with analyzing the most recent sales numbers. She has provided the following set of questions she would like answered.

In [1]:
```
import pandas as pd
url = 'https://raw.githubusercontent.com/justmarkham/DAT8/master/data/chipotle.tsv'
chipo = pd.read_csv(url, sep = '\t')
```

In [2]:
```
chipo.info()
chipo.head()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 4622 entries, 0 to 4621
Data columns (total 5 columns):
 #   Column              Non-Null Count  Dtype 
---  ------              --------------  ----- 
 0   order_id            4622 non-null   int64 
 1   quantity            4622 non-null   int64 
 2   item_name           4622 non-null   object
 3   choice_description  3376 non-null   object
 4   item_price          4622 non-null   object
dtypes: int64(2), object(3)
memory usage: 180.7+ KB
```

Out[2]:

	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

Question 1: Which was the most-ordered item?

In [3]:
```
most_ordered_item = chipo ['item_name'].value_counts().idxmax()
print("The most-ordered item:", most_ordered_item)
```

```
The most-ordered item: Chicken Bowl
```

Question 2: For the most-ordered item, how many items were ordered?

In [4]:
```
most_ordered_item_count = chipo['item_name'].value_counts().max()
print("There are", most_ordered_item_count, 'of the popular', most_ordered_item, 'that
```

```
There are 726 of the popular Chicken Bowl that were ordered.
```

Question 3: What was the most ordered item in the choice_description column?

In [5]:
```
most_ordered_item_cd = chipo['choice_description'].value_counts().idxmax()
print("The most-order item from the choice_description:", most_ordered_item_cd)
```

```
The most-order item from the choice_description: [Diet Coke]
```

Question 4: How many items were ordered in total?

In [6]:
```
total_items_ordered = chipo['quantity'].sum()
print('The total items ordered is', total_items_ordered)
```

```
The total items ordered is 4972
```

Question 5: Turn the item price into a float

In [7]:
```
chipo['item_price'] = chipo['item_price'].replace('[\$]','',regex=True).astype(float)
chipo.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 4622 entries, 0 to 4621
Data columns (total 5 columns):
 #   Column              Non-Null Count  Dtype  
---  ------              --------------  -----  
 0   order_id            4622 non-null   int64  
 1   quantity            4622 non-null   int64  
 2   item_name           4622 non-null   object 
 3   choice_description  3376 non-null   object 
 4   item_price          4622 non-null   float64
dtypes: float64(1), int64(2), object(2)
memory usage: 180.7+ KB
```

Question 6: How much was the revenue for the period in the dataset?

In [8]:
```
total_revenue = round(sum(chipo['quantity']*chipo['item_price']),2)
print('The total revenue for the period was', total_revenue)
```

```
The total revenue for the period was 39237.02
```

Question 7: How many orders were made in the period?

In [9]:
```
total_order = chipo['order_id'].nunique()
print('The total amount of orders made in the period is', total_order)
```

```
The total amount of orders made in the period is 1834
```

Question 8: What is the average revenue amount per order?

In [10]:
```
average_revenue = round(total_revenue/total_order,2)
print('The average revenue amount per order is', average_revenue)
```

```
The average revenue amount per order is 21.39
```

Question 9: How many different items are sold?

In [11]:
```
num_different_items = chipo['item_name'].nunique()
print('There were', num_different_items, 'different items sold')
```

```
There were 50 different items sold
```

Sales Analysis: Key Insights and Findings

- The most-ordered item: Chicken Bowl.
- Quantity of the most-ordered item: 726.
- The most-ordered item from the choice description: Diet Coke.
- Total items ordered: 4972.
- Total revenue for the period: `$39,237.02`.
- Total number of orders made in the period: 1834.
- Average revenue amount per order: `$21.39`.
- Number of different items sold: 50.