03-Ecommerce Purchases Exercise

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1 Assignment - 3

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2 Ecommerce Purchases Exercise

In this Exercise you will be given some Fake Data about some purchases done through Amazon! Just go ahead and follow the directions and try your best to answer the questions and complete the tasks. Feel free to reference the solutions. Most of the tasks can be solved in different ways. For the most part, the questions get progressively harder.

Please excuse anything that doesn't make "Real-World" sense in the dataframe, all the data is fake and made-up.

Also note that all of these questions can be answered with one line of code. _____ ** Import pandas and read in the Ecommerce Purchases csv file and set it to a DataFrame called ecom. **

[1]:
```
import pandas as pd
ecom = pd.read_csv('Ecommerce Purchases')
```

Check the head of the DataFrame.

[2]:
```
ecom.head()
```

[2]:

	Address	Lot	AM or PM	\
0	16629 Pace Camp Apt. 448\nAlexisborough, NE 77…	46 in	PM	
1	9374 Jasmine Spurs Suite 508\nSouth John, TN 8…	28 rn	PM	
2	Unit 0065 Box 5052\nDPO AP 27450	94 vE	PM	
3	7780 Julia Fords\nNew Stacy, WA 45798	36 vm	PM	
4	23012 Munoz Drive Suite 337\nNew Cynthia, TX 5…	20 IE	AM	

	Browser Info	\
0	Opera/9.56.(X11; Linux x86_64; sl-SI) Presto/2…	
1	Opera/8.93.(Windows 98; Win 9x 4.90; en-US) Pr…	
2	Mozilla/5.0 (compatible; MSIE 9.0; Windows NT …	
3	Mozilla/5.0 (Macintosh; Intel Mac OS X 10_8_0 …	

```
4  Opera/9.58.(X11; Linux x86_64; it-IT) Presto/2…

                          Company       Credit Card CC Exp Date  \
0                 Martinez-Herman  6011929061123406       02/20
1  Fletcher, Richards and Whitaker  3337758169645356       11/18
2       Simpson, Williams and Pham      675957666125       08/19
3  Williams, Marshall and Buchanan  6011578504430710       02/24
4        Brown, Watson and Andrews  6011456623207998       10/25

   CC Security Code                 CC Provider  \
0               900                JCB 16 digit
1               561                  Mastercard
2               699                JCB 16 digit
3               384                    Discover
4               678  Diners Club / Carte Blanche

                            Email                                       Job  \
0              pdunlap@yahoo.com  Scientist, product/process development
1             anthony41@reed.com                        Drilling engineer
2  amymiller@morales-harrison.com               Customer service manager
3     brent16@olson-robinson.info                        Drilling engineer
4     christopherwright@gmail.com                              Fine artist

        IP Address Language  Purchase Price
0  149.146.147.205       el           98.14
1     15.160.41.51       fr           70.73
2   132.207.160.22       de            0.95
3     30.250.74.19       es           78.04
4     24.140.33.94       es           77.82
```

** How many rows and columns are there? **

[3]:
```
ecom.shape
```

[3]:
```
(10000, 14)
```

** What is the average Purchase Price? **

[4]:
```
ecom['Purchase Price'].mean()
```

[4]:
```
np.float64(50.347302)
```

** What were the highest and lowest purchase prices? **

[5]:
```
ecom['Purchase Price'].max()
```

[5]:
```
np.float64(99.99)
```

[6]:
```
ecom['Purchase Price'].min()
```

[6]:
```
np.float64(0.0)
```

** How many people have English 'en' as their Language of choice on the website? **

[7]:
```
ecom[ecom['Language'] == 'en'].shape[0]
```

[7]:
```
1098
```

** How many people have the job title of "Lawyer" ? **

[8]:
```
ecom[ecom['Job'] == 'Lawyer'].shape[0]
```

[8]:
```
30
```

** How many people made the purchase during the AM and how many people made the purchase during PM ? **

(Hint: Check out value_counts())

[9]:
```
ecom['AM or PM'].value_counts()
```

[9]:
```
AM or PM
PM    5068
AM    4932
Name: count, dtype: int64
```

** What are the 5 most common Job Titles? **

[10]:
```
ecom['Job'].value_counts().head()
```

[10]:
```
Job
Interior and spatial designer    31
Lawyer                           30
Social researcher                28
Purchasing manager               27
Designer, jewellery              27
Name: count, dtype: int64
```

** Someone made a purchase that came from Lot: "90 WT" , what was the Purchase Price for this transaction? **

[11]:
```
ecom[ecom['Lot'] == '90 WT']['Purchase Price']
```

[11]:
```
513    75.1
Name: Purchase Price, dtype: float64
```

** What is the email of the person with the following Credit Card Number: 4926535242672853 **

[12]:
```
ecom[ecom['Credit Card'] == 4926535242672853]['Email']
```

[12]:
```
1234    bondellen@williams-garza.com
Name: Email, dtype: object
```

** How many people have American Express as their Credit Card Provider *and* made a purchase above $95 ?**

[13]:
```
ecom[(ecom['CC Provider'] == 'American Express') & (ecom['Purchase Price'] >␣
↪95)].shape[0]
```

[13]:
```
39
```

** Hard: How many people have a credit card that expires in 2025? **

[14]:
```
ecom[ecom['CC Exp Date'].str.contains('/25')].shape[0]
```

[14]:
```
1033
```

** Hard: What are the top 5 most popular email providers/hosts (e.g. gmail.com, yahoo.com, etc...) **

[15]:
```
ecom['Email'].str.split('@').str[1].value_counts().head()
```

[15]:
```
Email
hotmail.com     1638
yahoo.com       1616
gmail.com       1605
smith.com         42
williams.com      37
Name: count, dtype: int64
```

3 Great Job!