

03-Ecommerce Purchases Exercise

July 2, 2025

1 Assignment - 3

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Date: July 2, 2025

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!