

Section B: Data handling with pandas

Import pandas and read in the “Ecommerce Purchases.csv” file and set it to a DataFrame called ecom.

In [1]:

```
import pandas as pd
ecom=pd.read_csv("Ecommerce Purchases.csv")
ecom
```

Out[1]:

	Address	Lot	AM or PM	Browser Info	Company	Credit Card	CC Exp Date	S
0	16629 Pace Camp Apt. 448\nAlexisborough, NE 77...	46 in	PM	Opera/9.56.(X11; Linux x86_64; sl- SI) Presto/2...	Martinez- Herman	6011929061123406	02/20	
1	9374 Jasmine Spurs Suite 508\nSouth John, TN 8...	28 rn	PM	Opera/8.93. (Windows 98; Win 9x 4.90; en-US) Pr...	Fletcher, Richards and Whitaker	3337758169645356	11/18	
2	Unit 0065 Box 5052\nDPO AP 27450	94 vE	PM	Mozilla/5.0 (compatible; MSIE 9.0; Windows NT ...	Simpson, Williams and Pham	675957666125	08/19	
3	7780 Julia Fords\nNew Stacy, WA 45798	36 vm	PM	Mozilla/5.0 (Macintosh; Intel Mac OS X 10_8_0 ...	Williams, Marshall and Buchanan	6011578504430710	02/24	
4	23012 Munoz Drive Suite 337\nNew Cynthia, TX 5...	20 IE	AM	Opera/9.58.(X11; Linux x86_64; it- IT) Presto/2...	Brown, Watson and Andrews	6011456623207998	10/25	
...	
9995	966 Castaneda Locks\nWest Juliafurt, CO 96415	92 XI	PM	Mozilla/5.0 (Windows NT 5.1) AppleWebKit/5352 ...	Randall- Sloan	342945015358701	03/22	
9996	832 Curtis Dam Suite 785\nNorth Edwardburgh, T...	41 JY	AM	Mozilla/5.0 (compatible; MSIE 9.0; Windows NT ...	Hale, Collins and Wilson	210033169205009	07/25	
9997	Unit 4434 Box 6343\nDPO AE 28026- 0283	74 Zh	AM	Mozilla/5.0 (Macintosh; U; Intel Mac OS X 10_7...	Anderson Ltd	6011539787356311	05/21	
9998	0096 English Rest\nRoystad, IA 12457	74 cL	PM	Mozilla/5.0 (Macintosh; Intel Mac OS X 10_8_8;...	Cook Inc	180003348082930	11/17	
9999	40674 Barrett Stravenue\nGrimesville, WI 79682	64 Hr	AM	Mozilla/5.0 (X11; Linux i686; rv:1.9.5.20) Gec...	Greene Inc	4139972901927273	02/19	

10000 rows × 14 columns



Check the head of the DataFrame.

In [2]:

```
ecom.head()
```

Out[2]:

	Address	Lot	AM or PM	Browser Info	Company	Credit Card	CC Exp Date	CC Security Code	Pi
0	16629 Pace Camp Apt. 448\nAlexisborough, NE 77...	46 in	PM	Opera/9.56. (X11; Linux x86_64; sl- SI) Presto/2...	Martinez- Herman	6011929061123406	02/20	900	
1	9374 Jasmine Spurs Suite 508\nSouth John, TN 8...	28 rn	PM	Opera/8.93. (Windows 98; Win 9x 4.90; en- US) Pr...	Fletcher, Richards and Whitaker	3337758169645356	11/18	561	Mas
2	Unit 0065 Box 5052\nDPO AP 27450	94 vE	PM	Mozilla/5.0 (compatible; MSIE 9.0; Windows NT ...	Simpson, Williams and Pham	675957666125	08/19	699	
3	7780 Julia Fords\nNew Stacy, WA 45798	36 vm	PM	Mozilla/5.0 (Macintosh; Intel Mac OS X 10_8_0 ...	Williams, Marshall and Buchanan	6011578504430710	02/24	384	D
4	23012 Munoz Drive Suite 337\nNew Cynthia, TX 5...	20 IE	AM	Opera/9.58. (X11; Linux x86_64; it- IT) Presto/2...	Brown, Watson and Andrews	6011456623207998	10/25	678	E

What is the Average Purchase Price.

In [3]:

```
ecom['Purchase Price'] = pd.to_numeric(ecom['Purchase Price'], errors='coerce')
ecom['Purchase Price'].mean()
```

Out[3]:

```
50.34730200000025
```

What are the highest and lowest Purchases Prices.

In [4]:

```
ecom['Purchase Price'] = pd.to_numeric(ecom['Purchase Price'],errors='coerce')  
ecom['Purchase Price'].max()
```

Out[4]:

99.99

In [5]:

```
ecom['Purchase Price'] = pd.to_numeric(ecom['Purchase Price'],errors='coerce')  
ecom['Purchase Price'].min()
```

Out[5]:

0.0

How Many People have English 'en' as their Language of choice on the website.

In [6]:

```
ecom["Language"]
```

Out[6]:

```
0      el  
1      fr  
2      de  
3      es  
4      es  
  
9995   ..  
9996   it  
9997   pt  
9998   el  
9999   es  
9999   el
```

Name: Language, Length: 10000, dtype: object

In [7]:

```
sum(ecom['Language']=='en')
```

Out[7]:

1098

How many people have the job Title of "Lawyer".

In [8]:

```
sum(ecom['Job']=='Lawyer')
```

Out[8]:

30

How many people made the purchase during the AM and how many person made the person during PM.

In [9]:

```
sum(ecom['AM or PM']=='AM')
```

Out[9]:

4932

In [10]:

```
sum(ecom['AM or PM']=='PM')
```

Out[10]:

5068

What are the 5 most common Job Titles.

In [11]:

```
ecom['Job'].value_counts().head(5)
```

Out[11]:

Interior and spatial designer	31
Lawyer	30
Social researcher	28
Research officer, political party	27
Designer, jewellery	27
Name: Job, dtype: int64	

Someone made a purchase that came from Lot:"90 WT",what was the purchase price for this transection.

In [12]:

```
ecom[ecom["Lot"]=="90 WT"]["Purchase Price"]
```

Out[12]:

513 75.1

Name: Purchase Price, dtype: float64

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

In [13]:

```
ecom[ecom["Credit Card"]==4926535242672853]["Email"]
```

Out[13]:

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.

In [14]:

```
sum(ecom[(ecom['CC Provider']=='American Express') & (ecom['Purchase Price']>95)].count())
```

Out[14]:

546

How many people have a Credit Card that expires in 2025.

In [15]:

```
sum(ecom['CC Exp Date'].apply(lambda x:x[3:])=='25')
```

Out[15]:

1033