Description of our code:

Our project consists of two main scripts called scraper.py and store.py. Scraper.py scrapes data from an web scraping dummy e-commerce website that sells devices such as phones and computers. It scrapes the name, URL, price, description, number of stars and reviews, variants, and colors of the device. From there, a data frame is created containing all of that information of all of the phones and computers on the e-commerce site. That data frame then gets manipulated in our store.py script based on the prompts it gives the user to answer such as the desired category between phones and computers, and minimum and maximum price that the user inputs. The names of the devices are then printed out to the user and the user can then choose to view the details (name, url, price, description, number of stars and reives, variants, and colors) of the device and choose whether or not they want to add it to the cart and if they want to add more devices to the cart. From there, the total of the cart is calculated and displayed.

Steps to run the code program from command line:
The Following Modules will need to be Installed:
- `pip install regex`
  - *This is for installing a better version of regex with support for \K*
- `pip install tabulate`
  - *This allows for more readable and aesthetically-pleasing printouts of Pandas dataframes.*
- `pip install colorama`
  - *This adds color to our store output.*

<u>Windows:</u>
1. Run the following from command line: `python.exe scraper.py`
2. After step 1, run the following from command line: `python.exe store.py`

<u>MacOS</u>:
1. Run the following command from command line: `python3 scraper.py`
2. After step 1, run the following from command line: `python3 store.py`

How to interpret the output of the program:

For scraper.py, our code produces two things: a large dataframe – which will not print properly outside of Visual Studio Interactive Windows (screenshot below) – and a CSV file called `output.csv` containing the same data as the printed-out dataframe. We recommend that you access the CSV as it is easier to see the data that way.

```
| 128 |  Computers  |      IdeaTab A3500-H       | https://webscraper.io/test-sites/e-commerce/allinone/product/17 | $148.99 |
| 129 |  Computers  |       IdeaTab S5000        | https://webscraper.io/test-sites/e-commerce/allinone/product/26 | $172.99 |
| 130 |  Computers  |        Galaxy Tab 4        | https://webscraper.io/test-sites/e-commerce/allinone/product/21 | $233.99 |
| 131 |  Computers  |         Galaxy Tab         | https://webscraper.io/test-sites/e-commerce/allinone/product/16 | $251.99 |
| 132 |  Computers  |      MeMo PAD FHD 10       | https://webscraper.io/test-sites/e-commerce/allinone/product/25 | $320.99 |
| 133 |  Computers  |        Galaxy Note         | https://webscraper.io/test-sites/e-commerce/allinone/product/29 | $399.99 |
| 134 |  Computers  |        Galaxy Note         | https://webscraper.io/test-sites/e-commerce/allinone/product/19 | $489.99 |
| 135 |  Computers  |      iPad Mini Retina      | https://webscraper.io/test-sites/e-commerce/allinone/product/14 | $537.99 |
| 136 |  Computers  |      Galaxy Note 10.1      | https://webscraper.io/test-sites/e-commerce/allinone/product/24 | $587.99 |
| 137 |  Computers  |       Apple iPad Air       | https://webscraper.io/test-sites/e-commerce/allinone/product/30 | $603.99 |
| 138 |   Phones    |           Iphone           | https://webscraper.io/test-sites/e-commerce/allinone/product/7  | $899.99 |
| 139 |   Phones    |           Iphone           | https://webscraper.io/test-sites/e-commerce/allinone/product/9  | $899.99 |
| 140 |   Phones    |        Ubuntu Edge         | https://webscraper.io/test-sites/e-commerce/allinone/product/6  | $499.99 |
| 141 |   Phones    |         Nokia 123          | https://webscraper.io/test-sites/e-commerce/allinone/product/1  | $24.99  |
| 142 |   Phones    |         LG Optimus         | https://webscraper.io/test-sites/e-commerce/allinone/product/2  | $57.99  |
| 143 |   Phones    |       Samsung Galaxy       | https://webscraper.io/test-sites/e-commerce/allinone/product/3  | $93.99  |
| 144 |   Phones    |          Nokia X           | https://webscraper.io/test-sites/e-commerce/allinone/product/4  | $109.99 |
| 145 |   Phones    |        Sony Xperia         | https://webscraper.io/test-sites/e-commerce/allinone/product/5  | $118.99 |
| 146 |   Phones    |           Iphone           | https://webscraper.io/test-sites/e-commerce/allinone/product/8  | $899.99 |
```

(There are more columns not visible to the right)

130	128	Computers	IdeaTab A3500-H	https://wel	$148.99	Blue, 7&qu	2	9 reviews	['128', '256', '512']
131	129	Computers	IdeaTab S5000	https://wel	$172.99	Silver, 7&q	3	8 reviews	['128', '256', '512']
132	130	Computers	Galaxy Tab 4	https://wel	$233.99	LTE (SM-T2	4	1 reviews	['128', '256', '512']
133	131	Computers	Galaxy Tab	https://wel	$251.99	16GB, Whi	3	14 reviews	['128', '256', '512']
134	132	Computers	MeMo PAD FHD 10	https://wel	$320.99	White, 10.	2	7 reviews	['128', '256', '512']
135	133	Computers	Galaxy Note	https://wel	$399.99	10.1&quot	4	12 reviews	['128', '256', '512']
136	134	Computers	Galaxy Note	https://wel	$489.99	12.2&quot	3	9 reviews	['128', '256', '512']
137	135	Computers	iPad Mini Retina	https://wel	$537.99	Wi-Fi + Cel	2	8 reviews	['128', '256', '512']
138	136	Computers	Galaxy Note 10.1	https://wel	$587.99	10.1&quot	2	6 reviews	['128', '256', '512']
139	137	Computers	Apple iPad Air	https://wel	$603.99	Wi-Fi, 64G	3	7 reviews	['128', '256', '512']
140	138	Phones	Iphone	https://wel	$899.99	White	1	10 reviews	['Gold', 'White', 'Black']
141	139	Phones	Iphone	https://wel	$899.99	Black	1	1 reviews	['Gold', 'White', 'Black']
142	140	Phones	Ubuntu Edge	https://wel	$499.99	Sapphire g	1	2 reviews	['Gold', 'White', 'Black']
143	141	Phones	Nokia 123	https://wel	$24.99	7 day batte	3	11 reviews	['Gold', 'White', 'Black']
144	142	Phones	LG Optimus	https://wel	$57.99	3.2" :	3	11 reviews	['Gold', 'White', 'Black']
145	143	Phones	Samsung Galaxy	https://wel	$93.99	5 mpx. And	3	3 reviews	['Gold', 'White', 'Black']
146	144	Phones	Nokia X	https://wel	$109.99	Andoid, Jol	4	4 reviews	['Gold', 'White', 'Black']
147	145	Phones	Sony Xperia	https://wel	$118.99	GPS, wate	1	6 reviews	['Gold', 'White', 'Black']
148	146	Phones	Iphone	https://wel	$899.99	Silver	2	8 reviews	['Gold', 'White', 'Black']

(All columns are visible)

For some example usage of our store.py code, please scroll down to the next page. The desired category set by the user is Phones and the price range is between $0 to $500. A list of phones that fall within that range are displayed. We wanted to see details of the Samsung Galaxy so we selected the number 1 for the item number of the item we want to view details for. The details are displayed. We add to the cart and want to keep shopping. The process repeated when we selected the Sony Xperia (which was also added to the cart). We then decided that it was enough shopping and wanted to see the total of our cart and it came out to be $212.98 which is the sum of 93.99 and 118.99.

Example:

```
Choose your category between Phones and Computers: Phones
Enter your minimum price: 0
Enter your maximum price: 500
Items in stock based on your price range:
1. Samsung Galaxy $93.99
2. Nokia 123 $24.99
3. LG Optimus $57.99
4. Nokia X $109.99
5. Sony Xperia $118.99
6. Ubuntu Edge $499.99
Enter the item number of the item you want to see details for: 1
Item Name: Samsung Galaxy
Item URL: https://webscraper.io/test-sites/e-commerce/allinone/product/3
Price: $93.99
Description: 5 mpx. Android 5.0
Stars: 3
Reviews: 3 reviews
Variants: nan
Colors: ['Gold', 'White', 'Black']
Would you like to add this item to the cart? yes
Would you like to keep shopping? yes
Enter the item number of the item you want to see details for: 5
Item Name: Sony Xperia
Item URL: https://webscraper.io/test-sites/e-commerce/allinone/product/5
Price: $118.99
Description: GPS, waterproof
Stars: 1
Reviews: 6 reviews
Variants: nan
Colors: ['Gold', 'White', 'Black']
Would you like to add this item to the cart? yes
Would you like to keep shopping? no
Your total is: $212.98
```

Sources (APA cited)

(n.d.). *Colorama 0.4.6*. Pypi. Retrieved May 14, 2024, from https://pypi.org/project/colorama/
- Learning how to use colorama in python

(n.d.). *Python isinstance method*. Geeksforgeeks. Retrieved May 14, 2024, from
https://www.geeksforgeeks.org/python-isinstance-method/
- Used to learn about the isinstance function which was used in writing unit tests

https://regex101.com/
- Used to test the regex statements that were used on the e-commerce website html