

# PROBLEM STATEMENT:

E-retail factors for customer activation and retention:

A case study from Indian e-commerce customers

Customer satisfaction has emerged as one of the most important factors that guarantee the success of online store; it has been posited as a key stimulant of purchase, repurchase intentions and customer loyalty. A comprehensive review of the literature, theories and models have been carried out to propose the models for customer activation and customer retention. Five major factors that contributed to the success of an e-commerce store have been identified as: service quality, system quality, information quality, trust and net benefit. The research furthermore investigated the factors that influence the online customers repeat purchase intention. The combination of both utilitarian value and hedonistic values are needed to affect the repeat purchase intention (loyalty) positively. The data is collected from the Indian online shoppers.

Results indicate the e-retail success factors,  
which are very much critical for customer satisfaction.

## UNDERSTANDING ANS STEPS TO BE FOLLOWED

After reading the above problem statement completely and clearly, we can come to a decision that we have to take the dataset into evaluation regarding its dependent and independent variables and find the most customer satisfied Indian online shopping website to be recommended.

For that ,the following steps to be followed:

- 1) importing needed libraries
- 2) getting the dataset
- 3) EDA-Exploratory Data Analysis -- dtypes, isnull() ...etc
- 4) Data cleansing -- transforming dtypes
- 5) Data Visualization- using matplotlib and seaborn

TILL THIS STEP WE CAN EASILY PREDICT THE MOST SATISFIED AND RECOMMENDED INDIAN ONLINE WEBSITE BY MOST CUSTOMERS .

But the following steps needed to find the BEST FITTED MODEL for the given dataset.

- 6) More EDA -- describe, correlation
- 7) More data cleansing by removing some unnecessary columns.
- 8) Removing OUTLIERS
- 9) Splitting the data as x and y
- 10) Balancing them
- 11) Training and Testing of them
- 12) Regression or Classification
- 13) Prediction of models
- 14) Hypertuning of models( This is not needed in this dataset as we get the accurate model before this step
- 15) Saving the model

## IMPORTING THE NEEDED LIBRARIES

In [1]:

```
import pandas as pd
import numpy as np
import warnings
warnings.filterwarnings('ignore')
```

## GETTING THE DATASET

```
df=pd.read_csv('customer_retention_dataset.csv')
df
```

| 1Gender of respondent | 2 How old are you? | 3 Which city do you shop online from? | 4 What is the Pin Code of where you shop online from? | 5 Since How Long You are Shopping Online ? | 6 How many times you have made an online purchase in the past 1 year? | 7 How do you access the internet while shopping on-line? | 8 Which device do you use to access the online shopping? | 9 What is the screen size of your mobile device? | 10 What is the operating system (OS) of your device? | 11 How long does it take to get logged in (promotion sales period) | 12 Website                |
|-----------------------|--------------------|---------------------------------------|---|--|---|--|--|--|--|--|---------------------------|
| 0                     | 0                  | 3                                     | Delhi   | 110009                                     | 5   | 4  | 4  | 3  | 5  | 1 ...  | Amazon.in                 |
| 1                     | 1                  | 2                                     | Delhi   | 110030                                     | 5   | 5  | 2  | 1  | 2  | 3 ...  | Amazon.in<br>Flipkart.com |
| 2                     | 1                  | 2                                     | Greater Noida   | 201308                                     | 4   | 5  | 3  | 1  | 4  | 2 ...  | Myntra.com                |
| 3                     | 0                  | 2                                     | Karnal  | 132001                                     | 4   | 1  | 3  | 1  | 4  | 3 ...  | Snapdeal.com              |
| 4                     | 1                  | 2                                     | Bangalore   | 530068                                     | 3   | 2  | 2  | 1  | 2  | 3 ...  | Flipkart.com<br>Paytm.com |
| ...                   | ...                | ...                                   | ...   | ...  | ...   | ...  | ...  | ...  | ...  | ...  | ...                       |
| 264                   | 1                  | 2                                     | Solan   | 173212                                     | 2   | 1  | 3  | 1  | 4  | 2 ...  | Amazon.in                 |
| 265                   | 1                  | 3                                     | Ghaziabad   | 201008                                     | 2   | 4  | 3  | 1  | 5  | 2 ...  | Flipkart.com              |
| 266                   | 1                  | 4                                     | Bangalore   | 560010                                     | 3   | 1  | 3  | 2  | 5  | 1 ...  | Amazon.in                 |
| 267                   | 1                  | 1                                     | Solan   | 173229                                     | 3   | 1  | 2  | 1  | 4  | 2 ...  | Amazon.in                 |
| 268                   | 1                  | 4                                     | Ghaziabad   | 201009                                     | 3   | 4  | 3  | 1  | 4  | 2 ...  | Amazon.in                 |

**269 rows x 71 columns**



## EDA -- Exploratory Data Analysis

```
df.columns
```

```
Index(['1Gender of respondent', '2 How old are you? ',
      '3 Which city do you shop online from?',
      '4 What is the Pin Code of where you shop online from?',
      '5 Since How Long You are Shopping Online ?',
      '6 How many times you have made an online purchase in the past 1 year?',
      '7 How do you access the internet while shopping on-line?',
      '8 Which device do you use to access the online shopping?',
      '9 What is the screen size of your mobile device?\t+\t+\t+\t+\t+
```

'10 What is the operating system (OS) of your device?\t\t\t\t\t'

'11 What browser do you run on your device to access the website?\t\t\t\t\t'

'12 Which channel did you follow to arrive at your favorite online store for the first time?'

'13 After first visit, how do you reach the online retail store?\t\t\t\t\t'

'14 How much time do you explore the e- retail store before making a purchase decision?'

'15 What is your preferred payment Option?\t\t\t\t\t'

'16 How 4 do you abandon (selecting an items and leaving without making payment) your shopping cart?\t\t\t\t\t'

'17 Why did you abandon the "Bag", "Shopping Cart"? \t\t\t\t\t'

'18 The content on the website must be easy to read and understand',

'19 Information on similar product to the one highlighted is important for product comparison',

'20 Complete information on listed seller and product being offered is important for purchase decision.',

'21 All relevant information on listed products must be stated clearly',

'22 Ease of navigation in website', '23 Loading and processing speed',

'24 User friendly Interface of the website',

'25 Convenient Payment methods',

'26 Trust that the online retail store will fulfill its part of the transaction at the stipulated time',

'27 Empathy (readiness to assist with queries) towards the customers',

'28 Being able to guarantee the privacy of the customer',

'29 Responsiveness, availability of several communication channels (email, online rep, twitter, phone etc.)',

'30 Online shopping gives monetary benefit and discounts',

'31 Enjoyment is derived from shopping online',

'32 Shopping online is convenient and flexible',

'33 Return and replacement policy of the e-tailer is important for purchase decision',

'34 Gaining access to loyalty programs is a benefit of shopping online',

'35 Displaying quality Information on the website improves satisfaction of customers',

'36 User derive satisfaction while shopping on a good quality website or application',

'37 Net Benefit derived from shopping online can lead to users satisfaction',

'38 User satisfaction cannot exist without trust',

'39 Offering a wide variety of listed product in several category',

'40 Provision of complete and relevant product information',

'41 Monetary savings',

'42 The Convenience of patronizing the online retailer',

'43 Shopping on the website gives you the sense of adventure',

'44 Shopping on your preferred e-tailer enhances your social status',

'45 You feel gratification shopping on your favorite e-tailer',

'46 Shopping on the website helps you fulfill certain roles',

'47 Getting value for money spent',

'From the following, tick any (or all) of the online retailers you have shopped from;'

'Easy to use website or application',

'Visual appealing web-page layout', 'Wild variety of product on offer',

'Complete, relevant description information of products',

'Fast loading website speed of website and application',

'Reliability of the website or application',

'Quickness to complete purchase',

'Availability of several payment options', 'Speedy order delivery ',

'Privacy of customers' information',

'Security of customer financial information',

'Perceived Trustworthiness',

'Presence of online assistance through multi-channel',

'Longer time to get logged in (promotion, sales period)',

'Longer time in displaying graphics and photos (promotion, sales period)',

'Late declaration of price (promotion, sales period)',

'Longer page loading time (promotion, sales period)',

'Limited mode of payment on most products (promotion, sales period)',

'Longer delivery period' 'Change in website/Application design'

```

    'Longer delivery period', 'Change in website/Application design',
    'Frequent disruption when moving from one page to another',
    'Website is as efficient as before',
    'Which of the Indian online retailer would you recommend to a friend?'],
    dtype='object')

```

In [4]:

```
df.dtypes
```

Out[4]:

```

1Gender of respondent                                int64
2 How old are you?                                  int64
3 Which city do you shop online from?                object
4 What is the Pin Code of where you shop online from? int64
5 Since How Long You are Shopping Online ?           int64
...
Longer delivery period                               object
Change in website/Application design                 object
Frequent disruption when moving from one page to another object
Website is as efficient as before                    object
Which of the Indian online retailer would you recommend to a friend? object
Length: 71, dtype: object

```

In [5]:

```
df.isnull().sum()
```

Out[5]:

```

1Gender of respondent                                0
2 How old are you?                                  0
3 Which city do you shop online from?                0
4 What is the Pin Code of where you shop online from? 0
5 Since How Long You are Shopping Online ?           0
...
Longer delivery period                               0
Change in website/Application design                 0
Frequent disruption when moving from one page to another 0
Website is as efficient as before                    0
Which of the Indian online retailer would you recommend to a friend? 0
Length: 71, dtype: int64

```

In [6]:

```

import seaborn as sns
import matplotlib.pyplot as plt

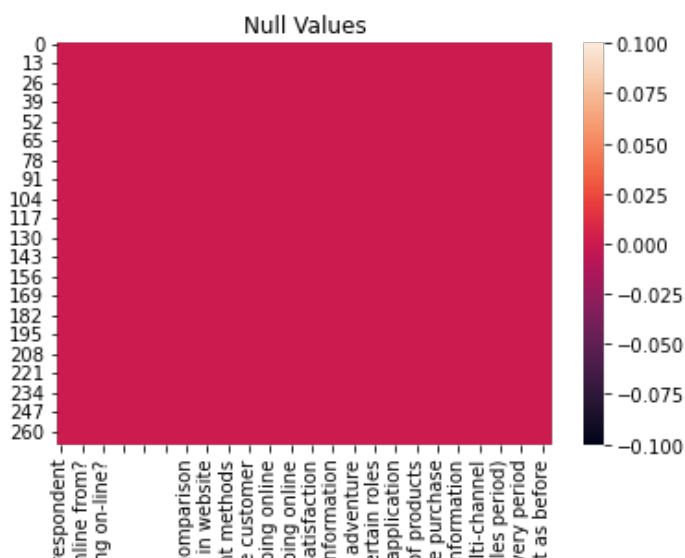
```

In [7]:

```

sns.heatmap(df.isnull())
plt.title('Null Values')
plt.show()

```



1 Gender of respondent

4 What is the Pin Code of where you shop or work?

7 How do you access the internet while shopping?

10 What is the operating system (OS) of your device?

13 After first visit, how do you reach the online retail store?

16 How do you abandon (selecting an item and leaving without making payment) your shopping cart?

19 Information on similar product to the one highlighted is important for product choice

22 Ease of navigation

25 Convenient Payment

28 Being able to guarantee the privacy of the purchase

31 Enjoyment is derived from shopping

34 Gaining access to loyalty programs is a benefit of shopping

37 Net Benefit derived from shopping online can lead to users switching to another website

40 Provision of complete and relevant product information

43 Shopping on the website gives you the sense of fulfillment

46 Shopping on the website helps you fulfill your needs

Easy to use website or app

Complete, relevant description information

Quickness to complete purchase

Privacy of customers' information

Presence of online assistance through multiple channels

Late declaration of price (promotion, sale)

Longer delivery time

Website is as efficient as offline store

## DATA CLEANSING

In [8]:

```
#Considering the last column as the target column as customer satisfaction
df['Which of the Indian online retailer would you recommend to a friend?'].value_counts()
```

Out[8]:

```
Amazon.in 79
Amazon.in, Flipkart.com 62
Flipkart.com 39
Amazon.in, Myntra.com 30
Amazon.in, Paytm.com, Myntra.com 20
Amazon.in, Flipkart.com, Myntra.com 15
Amazon.in, Paytm.com 13
Flipkart.com, Paytm.com, Myntra.com, snapdeal.com 11
Name: Which of the Indian online retailer would you recommend to a friend?, dtype: int64
```

In [9]:

```
import sklearn
from sklearn.preprocessing import OrdinalEncoder
ordin=OrdinalEncoder()
ordin.fit(df)
```

Out[9]:

▼ OrdinalEncoder

```
OrdinalEncoder()
```

For better evaluations and prediction we have to transform the object data type into int or float.

In [10]:

```
for i in df.columns:
    if df[i].dtypes=='object':
        df[i]=ordin.fit_transform(df[i].values.reshape(-1,1))
```

In [11]:

df

Out[11]:

|     | 1 Gender of respondent | 2 How old are you? | 3 Which city do you shop online from? | 4 What is the Pin Code of where you shop online from? | 5 Since How Long You are Shopping Online ? | 6 How many times you have made an online purchase in the past 1 year? | 7 How do you access the internet while shopping on-line? | 8 Which device do you use to access the online shopping? | 9 What is the screen size of your mobile device? | 10 What is the operating system (OS) of your device? | Longer time to get logged in (promotion, sales period) | dis |
|-----|------------------------|--------------------|---------------------------------------|---|--|---|--|--|--|--|--|-----|
| 0   | 0                      | 3                  | 2.0                                   | 110009  | 5  | 4   | 4  | 3  | 5  | 1 ...  | 0.0  |     |
| 1   | 1                      | 2                  | 2.0                                   | 110030  | 5  | 5   | 2  | 1  | 2  | 3 ...  | 1.0  |     |
| 2   | 1                      | 2                  | 4.0                                   | 201308  | 4  | 5   | 3  | 1  | 4  | 2 ...  | 7.0  |     |
| 3   | 0                      | 2                  | 6.0                                   | 132001  | 4  | 1   | 3  | 1  | 4  | 3 ...  | 9.0  |     |
| 4   | 1                      | 2                  | 0.0                                   | 530068  | 3  | 2   | 2  | 1  | 2  | 3 ...  | 5.0  |     |
| ... | ...                    | ...                | ...                                   | ...   | ...  | ...   | ...  | ...  | ...  | ...  | ...  |     |
| 264 | 1                      | 2                  | 10.0                                  | 173212  | 2  | 1   | 3  | 1  | 4  | 2 ...  | 0.0  |     |
| 265 | 1                      | 3                  | 3.0                                   | 201008  | 2  | 4   | 3  | 1  | 5  | 2 ...  | 4.0  |     |
| 266 | 1                      | 4                  | 0.0                                   | 560010  | 3  | 1   | 3  | 2  | 5  | 1 ...  | 0.0  |     |
| 267 | 1                      | 1                  | 10.0                                  | 173229  | 3  | 1   | 2  | 1  | 4  | 2 ...  | 0.0  |     |
| 268 | 1                      | 4                  | 3.0                                   | 201009  | 3  | 4   | 3  | 1  | 4  | 2 ...  | 0.0  |     |

269 rows x 71 columns



ALL VALUES ARE CHANGED INTO NUMBERS

## DATA VISUALIZATION

### Comparing different columns with the target variable

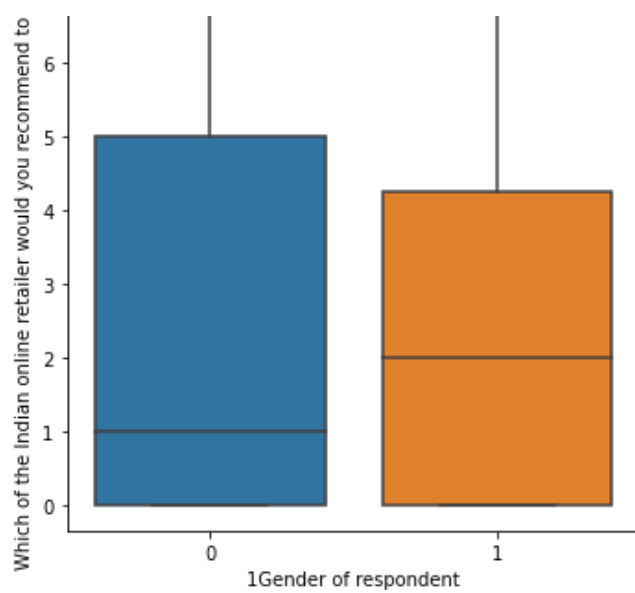
In [12]:

```
sns.catplot(data=df,x='1Gender of respondent',y='Which of the Indian online retailer would you recommend to a friend?',kind='box')
```

Out[12]:

<seaborn.axisgrid.FacetGrid at 0x1b2d31f3bb0>



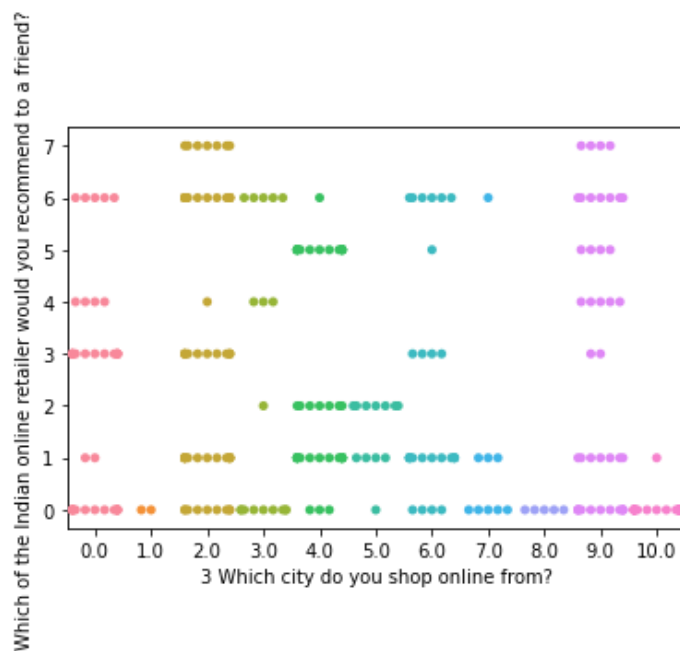


In [13]:

```
sns.swarmplot(data=df,x='3 Which city do you shop online from?',y='Which of the Indian online retailer would you recommend to a friend?')
```

Out[13]:

```
<AxesSubplot:xlabel='3 Which city do you shop online from?', ylabel='Which of the Indian online retailer would you recommend to a friend?'
```



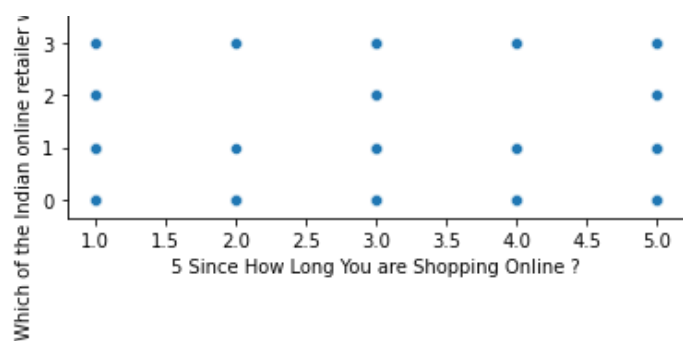
In [14]:

```
sns.scatterplot(data=df,x='5 Since How Long You are Shopping Online ?',y='Which of the Indian online retailer would you recommend to a friend?')
```

Out[14]:

```
<AxesSubplot:xlabel='5 Since How Long You are Shopping Online ?', ylabel='Which of the Indian online retailer would you recommend to a friend?'
```



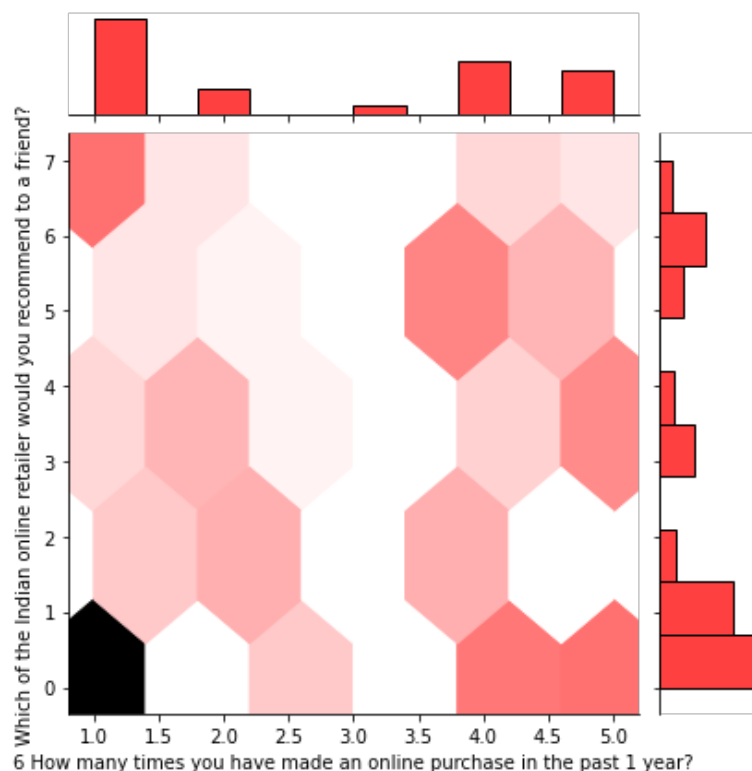


In [15]:

```
sns.jointplot(data=df, x='6 How many times you have made an online purchase in the past 1 year?', y='Which of the Indian online retailer would you recommend to a friend?', kind='hex', color='red')
```

Out[15]:

<seaborn.axisgrid.JointGrid at 0x1b2d323a9d0>

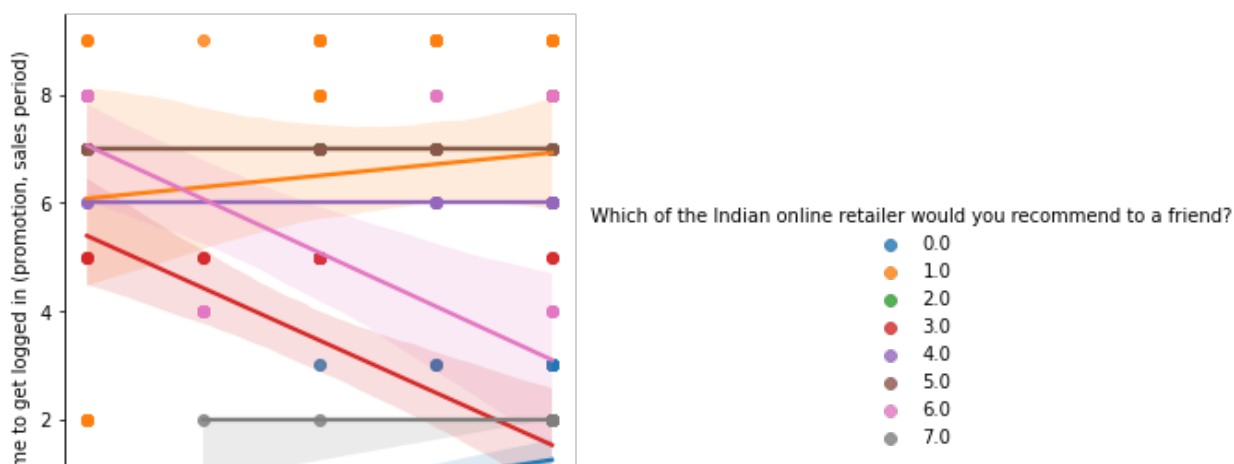


In [16]:

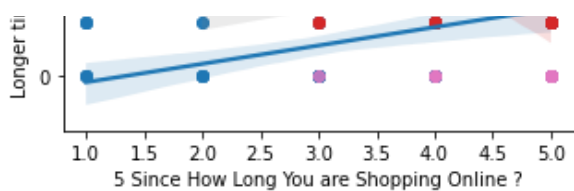
```
sns.lmplot(data=df, x='5 Since How Long You are Shopping Online ?', y='Longer time to get logged in (promotion, sales period)', hue='Which of the Indian online retailer would you recommend to a friend?')
```

Out[16]:

<seaborn.axisgrid.FacetGrid at 0x1b2d3484340>







In [17]:

```
df['Which of the Indian online retailer would you recommend to a friend?'].value_counts()
```

Out[17]:

```
0.0    79
1.0    62
6.0    39
3.0    30
5.0    20
2.0    15
4.0    13
7.0    11
```

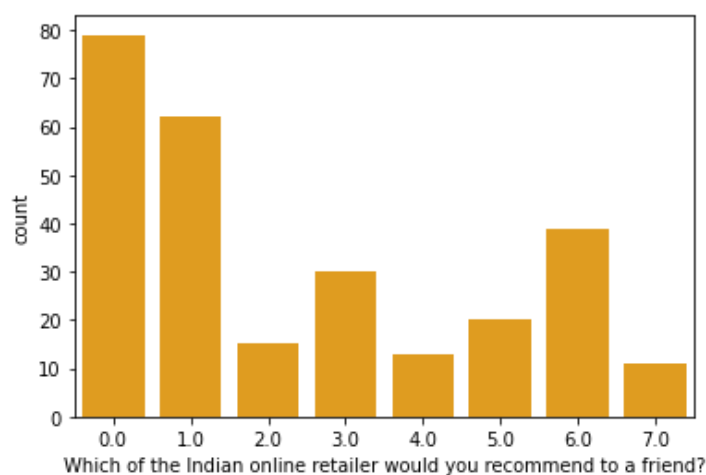
Name: Which of the Indian online retailer would you recommend to a friend?, dtype: int64

In [18]:

```
sns.countplot(df['Which of the Indian online retailer would you recommend to a friend?'],
color='orange')
```

Out[18]:

```
<AxesSubplot:xlabel='Which of the Indian online retailer would you recommend to a friend?'
, ylabel='count'>
```



## This gives the study that about:

|   |   |
|---|---|
| 79% percent customers are satisfied and recommend | with AMAZON.IN  |
| 62% percent customers are satisfied and recommend | with AMAZON.IN and FLIPKART.COM                           |
| 39% percent customers are satisfied and recommend | with FLIPKART.COM   |
| 30% percent customers are satisfied and recommend | with AMAZON.IN and MYNTRA.COM                             |
| 20% percent customers are satisfied and recommend | with AMAZON.IN, PAYTM.COM and MYNTRA.COM                  |
| 15% percent customers are satisfied and recommend | with AMAZON.IN, FLIPKART.COM and MYNTRA.COM               |
| 13% percent customers are satisfied and recommend | with AMAZON.IN and PAYTM.COM                              |
| 11% percent customers are satisfied and recommend | with FLIPKART.COM, PAYTM.COM, MYNTRA.COM and SNAPDEAL.COM |

**From the above study , it reveals that amazon.in seperately and partnering with other sites gives nearly more than 95% percent of customer satisfaction and also to be much recommended by them**

# RESULT :

MOST SATISFIED INDIAN ONLINE RETAILER IS :  
AMAZON.IN

The following steps are needed to complete the project assumptions or predictions , analysis to find the best model of the dataset

## More EDA

In [19]:

```
df.describe()
```

Out[19]:

|       | 1Gender of respondent | 2 How old are you? | 3 Which city do you shop online from? | 4 What is the Pin Code of where you shop online from? | 5 Since How Long You are Shopping Online ? | 6 How many times you have made an online purchase in the past 1 year? | 7 How do you access the internet while shopping on-line? | 8 Which device do you use to access the online shopping? | 9 What is the screen size of your mobile device? \\\\\\\\\\\\\\\\' | 10 W  |
|-------|-----------------------|--------------------|---------------------------------------|---|--|---|--|--|--|-------|
| count | 269.000000            | 269.000000         | 269.000000                            | 269.000000  | 269.000000                                 | 269.000000  | 269.000000   | 269.000000   | 269.000000   | 269.0 |
| mean  | 0.669145              | 2.959108           | 4.494424                              | 220465.747212   | 3.524164                                   | 2.672862  | 3.260223   | 1.676580   | 4.282528   | 1.7   |
| std   | 0.471398              | 1.066012           | 3.187687                              | 140524.341051   | 1.436586                                   | 1.651788  | 1.135887   | 0.843904   | 0.923426   | 0.7   |
| min   | 0.000000              | 1.000000           | 0.000000                              | 110008.000000   | 1.000000                                   | 1.000000  | 2.000000   | 1.000000   | 2.000000   | 1.0   |
| 25%   | 0.000000              | 2.000000           | 2.000000                              | 122018.000000   | 3.000000                                   | 1.000000  | 2.000000   | 1.000000   | 4.000000   | 1.0   |
| 50%   | 1.000000              | 3.000000           | 4.000000                              | 201303.000000   | 4.000000                                   | 2.000000  | 3.000000   | 1.000000   | 4.000000   | 2.0   |
| 75%   | 1.000000              | 4.000000           | 7.000000                              | 201310.000000   | 5.000000                                   | 4.000000  | 5.000000   | 2.000000   | 5.000000   | 2.0   |
| max   | 1.000000              | 5.000000           | 10.000000                             | 560037.000000   | 5.000000                                   | 5.000000  | 5.000000   | 4.000000   | 5.000000   | 3.0   |

8 rows x 71 columns



In [20]:

```
df.corr()
```

Out[20]:

|                                       | 1Gender of respondent | 2 How old are you? | 3 Which city do you shop online from? | 4 What is the Pin Code of where you shop online from? | 5 Since How Long You are Shopping Online ? | 6 How many times you have made an online purchase in the past 1 year? | 7 How do you access the internet while shopping on-line? | 8 Which device do you use to access the online shopping? | 9 What is the screen size of your mobile device? \\\\\\\\\\\\\\\\' | 10 What is the operating system (OS) of your device? \\\\\\\\\\\\\\\\' |
|---------------------------------------|-----------------------|--------------------|---------------------------------------|---|--|---|--|--|--|--|
| 1Gender of respondent                 | 1.000000              | -0.034449          | -0.091867                             | 0.260696  | -0.046005                                  | 0.076121  | -0.200974  | -0.241847  | -0.058760  | -0.03820   |
| 2 How old are you?                    | -0.034449             | 1.000000           | 0.077481                              | -0.057393   | 0.014049                                   | 0.005089  | 0.024228   | 0.292176   | 0.227841   | -0.13359   |
| 3 Which city do you shop online from? | -0.091867             | 0.077481           | 1.000000                              | 0.416597  | 0.103714                                   | -0.127906   | -0.069673  | -0.001366  | 0.181806   | -0.12078   |

|  |           |          |          |  |           |          |          |   |           |           |  |          |  |          |
|--|-----------|----------|----------|--|-----------|----------|----------|---|-----------|-----------|--|----------|--|----------|
| 4 What is the Pin Code of where you shop online from?                | 0.260696  | -        | -        | 4 What is the Pin Code of where you shop online from?                | 0.092980  | 0.092980 | 0.092980 | 6 How many times you have made an online purchase in the past 1 year? | 0.134879  | -0.103424 | 9 What is the size of your mobile device?                            | 0.077901 | 10 What is the operating system of your device?                      | 0.077901 |
| 5 Since How Long You are Shopping Online ?                           | 0.046005  | 0.014049 | 0.105714 | 5 Since How Long You are Shopping Online ?                           | 1.000000  | 1.000000 | 1.000000 | 5 Since How Long You are Shopping Online ?                            | 0.291104  | 0.088758  | 8 Which device do you use to access the online shopping?             | 0.369654 | 0.118596   | -0.44176 |
| ...  | ...       | ...      | ...      | ...  | ...       | ...      | ...      | ...   | ...       | ...       | ...  | ...      | ...  | ...      |
| Longer delivery period   | -0.052701 | 0.077265 | 0.123369 | Longer delivery period   | 0.146307  | 0.006841 | 0.048490 | Longer delivery period  | 0.279346  | 0.028235  | Longer delivery period   | -0.05646 | Longer delivery period   | -0.05646 |
| Change in website/Application design                                 | 0.154007  | 0.076580 | 0.000427 | Change in website/Application design                                 | 0.102906  | 0.041653 | 0.075205 | Change in website/Application design                                  | 0.159209  | 0.408534  | Change in website/Application design                                 | -0.32512 | Change in website/Application design                                 | -0.32512 |
| Frequent disruption when moving from one page to another             | 0.260813  | -        | 0.019167 | Frequent disruption when moving from one page to another             | -0.043482 | -        | -        | Frequent disruption when moving from one page to another              | -0.062060 | -         | Frequent disruption when moving from one page to another             | -0.07269 | Frequent disruption when moving from one page to another             | -0.07269 |
| Website is as efficient as before                                    | -0.047723 | -        | 0.007117 | Website is as efficient as before                                    | -0.176908 | -        | -        | Website is as efficient as before                                     | 0.105177  | -         | Website is as efficient as before                                    | 0.21116  | Website is as efficient as before                                    | 0.21116  |
| Which of the Indian online retailer would you recommend to a friend? | -0.002005 | -        | -        | Which of the Indian online retailer would you recommend to a friend? | 0.029584  | 0.159652 | 0.037752 | Which of the Indian online retailer would you recommend to a friend?  | 0.220059  | 0.047486  | Which of the Indian online retailer would you recommend to a friend? | 0.00765  | Which of the Indian online retailer would you recommend to a friend? | 0.00765  |

71 rows x 71 columns

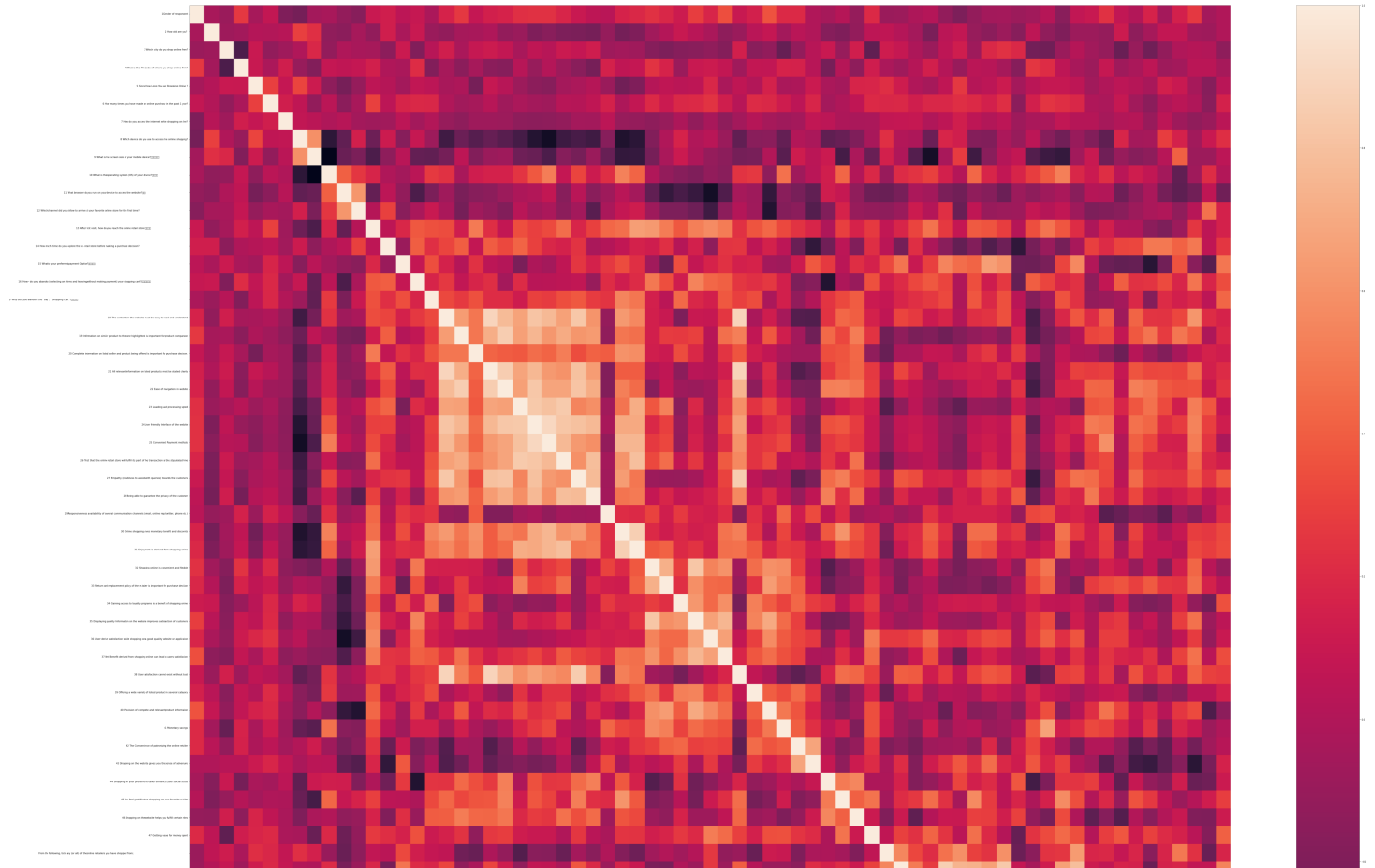


In [21]:

```
import seaborn as sns
import matplotlib.pyplot as plt
```

In [22]:

```
plt.figure(figsize=(100,100))
sns.heatmap(df.corr())
plt.show()
```



Heatmap visualization of the 2019-2020 COVID-19 pandemic across 195 countries. The color scale ranges from dark purple (low cases) to bright yellow (high cases). The map shows a clear progression of the virus from North America and Europe in early 2020, spreading to Asia and South America by mid-2020, and then to Africa and South America by late 2020. The legend on the right indicates the color scale for 'Cumulative Cases'.

30 Online shopping gives monetary benefit and discounts  
0.325032  
Visual appealing web-page layout  
0.316054  
45 You feel gratification shopping on your favorite e-tailer  
0.285367  
Longer page loading time (promotion, sales period)  
0.278281  
38 User satisfaction cannot exist without trust  
0.273217  
Longer time to get logged in (promotion, sales period)  
0.261774  
14 How much time do you explore the e- retail store before making a purchase decision?  
0.252640  
Website is as efficient as before  
0.252154  
22 Ease of navigation in website  
0.237481  
Late declaration of price (promotion, sales period)  
0.231029  
8 Which device do you use to access the online shopping?  
0.220059  
Wild variety of product on offer  
0.208213  
21 All relevant information on listed products must be stated clearly  
0.207874  
29 Responsiveness, availability of several communication channels (email, online rep, twitter, phone etc.)  
0.203022  
19 Information on similar product to the one highlighted is important for product comparison  
0.194834  
From the following, tick any (or all) of the online retailers you have shopped from;  
0.170697  
18 The content on the website must be easy to read and understand  
0.166009  
6 How many times you have made an online purchase in the past 1 year?  
0.159652  
12 Which channel did you follow to arrive at your favorite online store for the first time?  
0.155508  
13 After first visit, how do you reach the online retail store?  
0.155481  
43 Shopping on the website gives you the sense of adventure  
0.155160  
39 Offering a wide variety of listed product in several category  
0.152054  
28 Being able to guarantee the privacy of the customer  
0.149965  
26 Trust that the online retail store will fulfill its part of the transaction at the stipulated time  
0.135180  
24 User friendly Interface of the website  
0.132886  
20 Complete information on listed seller and product being offered is important for purchase decision.  
0.130883  
Frequent disruption when moving from one page to another  
0.122953  
46 Shopping on the website helps you fulfill certain roles  
0.118893  
44 Shopping on your preferred e-tailer enhances your social status  
0.110229  
36 User derive satisfaction while shopping on a good quality website or application  
0.099100  
23 Loading and processing speed  
0.081131  
9 What is the screen size of your mobile device?  
0.047486  
35 Displaying quality Information on the website improves satisfaction of customers  
0.046758  
7 How do you access the internet while shopping on-line?

| 1 Gender of respondent | 2 How old are you? | 3 Which city do you shop online from? | 4 What is the Pin Code of where you shop online from? | 5 Since How Long You are Shopping Online ? | 6 How many times you have made an online purchase in the past 1 year? | 7 How do you access the internet while shopping on-line? | 8 Which device do you use to access the online shopping? | 9 What is the screen size of your mobile device? | 10 What is the operating system (OS) of your device? | 11 Longer time to get logged in (promotion, sales period) | 12 dis  gr and (pror |
|------------------------|--------------------|---------------------------------------|---|--|---|--|--|--|--|---|----------------------|
| 0                      | 0                  | 3                                     | 2.0   | 110009                                     | 5   | 4  | 4  | 3  | 5  | 1 ...   | 0.0                  |
| 1                      | 1                  | 2                                     | 2.0   | 110030                                     | 5   | 5  | 2  | 1  | 2  | 3 ...   | 1.0                  |
| 2                      | 1                  | 2                                     | 4.0   | 201308                                     | 4   | 5  | 3  | 1  | 4  | 2 ...   | 7.0                  |
| 3                      | 0                  | 2                                     | 6.0   | 132001                                     | 4   | 1  | 3  | 1  | 4  | 3 ...   | 9.0                  |
| 4                      | 1                  | 2                                     | 0.0   | 530068                                     | 3   | 2  | 2  | 1  | 2  | 3 ...   | 5.0                  |
| 5                      | 1                  | 3                                     | 9.0   | 201308                                     | 5   | 5  | 2  | 1  | 4  | 2 ...   | 6.0                  |
| 6                      | 0                  | 4                                     | 2.0   | 110011                                     | 5   | 4  | 2  | 4  | 5  | 2 ...   | 2.0                  |
| 7                      | 0                  | 4                                     | 2.0   | 110018                                     | 4   | 1  | 3  | 3  | 5  | 1 ...   | 1.0                  |
| 8                      | 1                  | 1                                     | 10.0  | 173229                                     | 3   | 1  | 2  | 1  | 4  | 2 ...   | 0.0                  |
| 9                      | 1                  | 3                                     | 2.0   | 110039                                     | 1   | 1  | 2  | 2  | 5  | 1 ...   | 8.0                  |

|    |                      |                  |  |                                    |   |   |  |   |  |     |  |     |   |     |  |                 |
|----|----------------------|------------------|--|------------------------------------|---|---|--|---|--|-----|--|-----|---|-----|--|-----------------|
| 10 | 0                    | 3                | 8.0                                      | 244001                             | 5   | 6 | 3  | 2 | 5  | 1   | ...  | 3.0 |   |     |  |                 |
| 11 | 1                    | 4                | 2.0                                      | 110011                             | 5   | 5 | 2  | 2 | 5  | ... | Longer   | 9.0 |   |     |  |                 |
| 12 | Gender of respondent | How old are you? | When did you open your shop online from? | Code of Long You Shopping Online ? | How many times you have made an online purchase in the past 1 year? | 7 | How do you access the internet while shopping on-line? | 8 | Which device do you use to access the online shopping? | 9   | What is the screen size of your mobile device? | 10  | What is the operating system (OS) of your device? | ... | time to get logged in (promotion sales period) | disgr and (prom |
| 13 | 1                    | 2                | 4.0                                      | 201310                             | 3   | 2 | 2  | 2 | 2  | 5   | ...  | 2.0 |   |     |  |                 |
| 14 | 1                    | 2                | 0.0                                      | 560037                             | 3   | 5 | 3  | 1 | 4  | 3   | ...  | 9.0 |   |     |  |                 |
| 15 | 1                    | 2                | 9.0                                      | 201308                             | 2   | 3 | 3  | 2 | 5  | 3   | ...  | 5.0 |   |     |  |                 |
| 16 | 0                    | 3                | 2.0                                      | 110011                             | 1   | 1 | 2  | 2 | 5  | 1   | ...  | 6.0 |   |     |  |                 |
| 17 | 1                    | 4                | 2.0                                      | 110018                             | 2   | 1 | 2  | 2 | 5  | 1   | ...  | 2.0 |   |     |  |                 |
| 18 | 1                    | 2                | 10.0                                     | 173229                             | 2   | 2 | 2  | 1 | 4  | 3   | ...  | 9.0 |   |     |  |                 |
| 19 | 1                    | 2                | 9.0                                      | 201308                             | 2   | 5 | 2  | 1 | 2  | 3   | ...  | 5.0 |   |     |  |                 |
| 20 | 0                    | 3                | 5.0                                      | 122018                             | 4   | 4 | 2  | 4 | 4  | 2   | ...  | 1.0 |   |     |  |                 |
| 21 | 0                    | 4                | 4.0                                      | 201310                             | 5   | 4 | 3  | 4 | 4  | 2   | ...  | 0.0 |   |     |  |                 |
| 22 | 1                    | 4                | 4.0                                      | 203207                             | 5   | 5 | 5  | 3 | 5  | 1   | ...  | 8.0 |   |     |  |                 |
| 23 | 1                    | 2                | 7.0                                      | 250001                             | 4   | 5 | 5  | 1 | 4  | 1   | ...  | 3.0 |   |     |  |                 |
| 24 | 1                    | 2                | 0.0                                      | 530068                             | 3   | 1 | 5  | 2 | 5  | 1   | ...  | 8.0 |   |     |  |                 |
| 25 | 0                    | 2                | 3.0                                      | 201005                             | 1   | 2 | 5  | 2 | 5  | 1   | ...  | 7.0 |   |     |  |                 |
| 26 | 0                    | 3                | 2.0                                      | 110044                             | 5   | 5 | 5  | 2 | 5  | 1   | ...  | 2.0 |   |     |  |                 |
| 27 | 1                    | 4                | 4.0                                      | 201306                             | 5   | 4 | 5  | 2 | 5  | 1   | ...  | 7.0 |   |     |  |                 |
| 28 | 1                    | 4                | 6.0                                      | 132001                             | 3   | 1 | 5  | 2 | 5  | 3   | ...  | 9.0 |   |     |  |                 |
| 29 | 1                    | 1                | 0.0                                      | 560010                             | 5   | 1 | 5  | 1 | 2  | 3   | ...  | 5.0 |   |     |  |                 |
| 30 | 0                    | 3                | 9.0                                      | 201305                             | 3   | 1 | 5  | 3 | 5  | 1   | ...  | 0.0 |   |     |  |                 |
| 31 | 0                    | 3                | 2.0                                      | 110042                             | 5   | 3 | 5  | 1 | 2  | 3   | ...  | 1.0 |   |     |  |                 |
| 32 | 1                    | 4                | 4.0                                      | 201308                             | 5   | 1 | 5  | 1 | 4  | 2   | ...  | 7.0 |   |     |  |                 |
| 33 | 1                    | 5                | 6.0                                      | 132036                             | 4   | 1 | 5  | 1 | 4  | 3   | ...  | 9.0 |   |     |  |                 |
| 34 | 1                    | 2                | 0.0                                      | 560018                             | 3   | 2 | 5  | 1 | 2  | 3   | ...  | 5.0 |   |     |  |                 |
| 35 | 0                    | 3                | 9.0                                      | 201305                             | 1   | 1 | 5  | 1 | 4  | 2   | ...  | 6.0 |   |     |  |                 |
| 36 | 0                    | 4                | 2.0                                      | 110008                             | 5   | 2 | 5  | 4 | 5  | 2   | ...  | 2.0 |   |     |  |                 |
| 37 | 1                    | 4                | 4.0                                      | 201308                             | 5   | 5 | 5  | 3 | 5  | 1   | ...  | 1.0 |   |     |  |                 |
| 38 | 1                    | 2                | 6.0                                      | 132036                             | 3   | 4 | 5  | 1 | 4  | 2   | ...  | 0.0 |   |     |  |                 |
| 39 | 1                    | 2                | 0.0                                      | 560002                             | 5   | 4 | 5  | 2 | 5  | 1   | ...  | 8.0 |   |     |  |                 |
| 40 | 0                    | 3                | 9.0                                      | 201303                             | 4   | 5 | 5  | 2 | 5  | 1   | ...  | 3.0 |   |     |  |                 |
| 41 | 0                    | 2                | 2.0                                      | 110044                             | 3   | 5 | 5  | 2 | 5  | 1   | ...  | 8.0 |   |     |  |                 |
| 42 | 1                    | 2                | 4.0                                      | 201312                             | 1   | 1 | 5  | 2 | 5  | 1   | ...  | 7.0 |   |     |  |                 |
| 43 | 1                    | 3                | 7.0                                      | 250001                             | 5   | 2 | 5  | 3 | 5  | 1   | ...  | 0.0 |   |     |  |                 |
| 44 | 1                    | 4                | 0.0                                      | 560037                             | 5   | 5 | 5  | 1 | 2  | 3   | ...  | 1.0 |   |     |  |                 |
| 45 | 0                    | 4                | 9.0                                      | 201308                             | 5   | 4 | 5  | 1 | 4  | 2   | ...  | 7.0 |   |     |  |                 |
| 46 | 0                    | 1                | 2.0                                      | 110011                             | 5   | 1 | 5  | 1 | 4  | 3   | ...  | 9.0 |   |     |  |                 |
| 47 | 1                    | 3                | 4.0                                      | 203202                             | 3   | 1 | 5  | 1 | 4  | 3   | ...  | 9.0 |   |     |  |                 |
| 48 | 1                    | 3                | 6.0                                      | 132001                             | 5   | 5 | 5  | 1 | 2  | 3   | ...  | 5.0 |   |     |  |                 |
| 49 | 1                    | 4                | 0.0                                      | 560001                             | 4   | 4 | 5  | 1 | 4  | 2   | ...  | 6.0 |   |     |  |                 |
| 50 | 0                    | 5                | 9.0                                      | 201304                             | 3   | 4 | 5  | 4 | 5  | 2   | ...  | 2.0 |   |     |  |                 |
| 51 | 0                    | 4                | 2.0                                      | 110044                             | 1   | 5 | 5  | 3 | 5  | 1   | ...  | 1.0 |   |     |  |                 |
| 52 | 1                    | 4                | 4.0                                      | 201312                             | 5   | 5 | 5  | 3 | 5  | 1   | ...  | 1.0 |   |     |  |                 |
| 53 | 1                    | 2                | 7.0                                      | 250001                             | 5   | 1 | 5  | 1 | 4  | 2   | ...  | 0.0 |   |     |  |                 |

|    |   |   |       |        |   |   |   |   |   |   |     |     |
|----|---|---|-------|--------|---|---|---|---|---|---|-----|-----|
| 55 | 1 | 2 | 0.0   | 460003 | 4 | 6 | 5 | 2 | 5 | 1 | ... | 8.0 |
| 56 | 0 | 2 | 2.0   | 110014 | 5 | 3 | 5 | 2 | 5 | 1 | ... | 2.0 |
| 57 | 0 | 2 | 2.0   | 110044 | 5 | 5 | 5 | 2 | 5 | 1 | ... | 2.0 |
| 58 | 1 | 4 | 4.0   | 201306 | 3 | 2 | 3 | 2 | 5 | 1 | ... | 7.0 |
| 59 | 1 | 4 | 13.00 | 560019 | 3 | 1 | 5 | 3 | 2 | 3 | ... | 1.0 |
| 60 | 1 | 4 | 0.0   | 560019 | 4 | 4 | 5 | 1 | 2 | 3 | ... | 1.0 |
| 61 | 0 | 1 | 9.0   | 201308 | 3 | 1 | 5 | 1 | 4 | 2 | ... | 7.0 |
| 62 | 0 | 3 | 2.0   | 110014 | 1 | 1 | 5 | 1 | 4 | 3 | ... | 9.0 |
| 63 | 1 | 3 | 4.0   | 201310 | 5 | 5 | 5 | 1 | 4 | 3 | ... | 9.0 |
| 64 | 1 | 4 | 7.0   | 250001 | 3 | 4 | 5 | 3 | 5 | 1 | ... | 1.0 |
| 65 | 1 | 5 | 0.0   | 560037 | 5 | 4 | 5 | 3 | 5 | 1 | ... | 1.0 |
| 66 | 0 | 3 | 9.0   | 201304 | 4 | 1 | 5 | 3 | 5 | 1 | ... | 0.0 |
| 67 | 0 | 4 | 2.0   | 110044 | 3 | 1 | 5 | 1 | 2 | 3 | ... | 1.0 |
| 68 | 1 | 4 | 4.0   | 201312 | 1 | 5 | 5 | 1 | 4 | 2 | ... | 7.0 |
| 69 | 1 | 2 | 7.0   | 250001 | 5 | 4 | 5 | 1 | 4 | 3 | ... | 9.0 |
| 70 | 1 | 2 | 0.0   | 560003 | 5 | 4 | 5 | 3 | 5 | 1 | ... | 1.0 |
| 71 | 0 | 3 | 9.0   | 201310 | 4 | 1 | 5 | 2 | 5 | 1 | ... | 8.0 |
| 72 | 0 | 2 | 2.0   | 110044 | 3 | 5 | 5 | 2 | 5 | 1 | ... | 8.0 |
| 73 | 1 | 2 | 4.0   | 201306 | 1 | 4 | 5 | 2 | 5 | 1 | ... | 7.0 |
| 74 | 1 | 3 | 6.0   | 132001 | 5 | 4 | 5 | 2 | 5 | 1 | ... | 2.0 |
| 75 | 1 | 4 | 0.0   | 560010 | 3 | 1 | 5 | 2 | 5 | 1 | ... | 0.0 |
| 76 | 0 | 4 | 9.0   | 201308 | 5 | 1 | 5 | 2 | 5 | 1 | ... | 3.0 |
| 77 | 0 | 1 | 2.0   | 110042 | 4 | 5 | 5 | 1 | 2 | 3 | ... | 1.0 |
| 78 | 1 | 3 | 4.0   | 201308 | 3 | 4 | 5 | 1 | 4 | 2 | ... | 7.0 |
| 79 | 1 | 3 | 6.0   | 132036 | 1 | 4 | 5 | 1 | 2 | 3 | ... | 5.0 |
| 80 | 1 | 4 | 0.0   | 560018 | 4 | 2 | 5 | 1 | 4 | 2 | ... | 6.0 |
| 81 | 0 | 5 | 9.0   | 201305 | 3 | 5 | 5 | 1 | 4 | 2 | ... | 0.0 |
| 82 | 0 | 4 | 2.0   | 110008 | 3 | 4 | 5 | 1 | 4 | 2 | ... | 0.0 |
| 83 | 1 | 4 | 4.0   | 201308 | 1 | 1 | 5 | 1 | 4 | 3 | ... | 2.0 |
| 84 | 1 | 2 | 6.0   | 132036 | 5 | 1 | 5 | 1 | 4 | 2 | ... | 0.0 |
| 85 | 1 | 2 | 0.0   | 560002 | 5 | 1 | 5 | 1 | 5 | 2 | ... | 4.0 |
| 86 | 0 | 3 | 9.0   | 201303 | 4 | 3 | 5 | 1 | 4 | 1 | ... | 0.0 |
| 87 | 0 | 4 | 2.0   | 110044 | 3 | 1 | 5 | 1 | 4 | 3 | ... | 9.0 |
| 88 | 0 | 2 | 0.0   | 560013 | 1 | 1 | 5 | 1 | 4 | 2 | ... | 1.0 |
| 89 | 0 | 2 | 9.0   | 201308 | 5 | 2 | 5 | 4 | 5 | 2 | ... | 2.0 |
| 90 | 1 | 3 | 2.0   | 110014 | 1 | 1 | 5 | 2 | 5 | 1 | ... | 8.0 |
| 91 | 1 | 2 | 4.0   | 201310 | 5 | 4 | 5 | 2 | 5 | 1 | ... | 8.0 |
| 92 | 1 | 2 | 6.0   | 132001 | 5 | 4 | 5 | 2 | 5 | 1 | ... | 8.0 |
| 93 | 1 | 2 | 2.0   | 110008 | 5 | 5 | 2 | 2 | 5 | 1 | ... | 8.0 |
| 94 | 1 | 2 | 4.0   | 201308 | 4 | 5 | 3 | 1 | 4 | 2 | ... | 7.0 |
| 95 | 1 | 2 | 0.0   | 530068 | 3 | 2 | 2 | 1 | 2 | 3 | ... | 5.0 |
| 96 | 1 | 3 | 3.0   | 201005 | 5 | 5 | 2 | 1 | 4 | 2 | ... | 6.0 |
| 97 | 1 | 1 | 10.0  | 173229 | 3 | 1 | 2 | 1 | 4 | 2 | ... | 0.0 |
| 98 | 1 | 3 | 2.0   | 110044 | 1 | 1 | 2 | 2 | 5 | 1 | ... | 8.0 |
| 99 | 1 | 4 | 9.0   | 201308 | 5 | 1 | 2 | 2 | 5 | 1 | ... | 8.0 |



|     |                      |   |                  |        |  |   |  |  |  |  |     |   |                   |
|-----|----------------------|---|------------------|--------|--|---|--|--|--|--|-----|---|-------------------|
| 100 | 1                    | 5 | 5.0              | 122018 | 3                                      | 6   | 2  | 2  | 5  | 1  | ... | 7.0   |                   |
| 101 | 1                    | 3 | 3.0              | 201001 | 5                                      | 5   | 7  | 2  | 9  | 10   | ... | 0.0   |                   |
| 102 | Gender of respondent | 1 | How old are you? | 10.0   | Code of Long You are Shopping Online ? | How many times you have made an online purchase in the past 1 year? | How do you access the internet while shopping on-line? | 8 Which device do you use to access the online shopping? | 9 What is the screen size of your mobile device? | 10 What is the operating system (OS) of your device? | ... | Longer time to get logged in (promotion sales period) | disgrace and (pro |
| 103 |                      | 1 | 10.0             | 173212 | 2                                      | 1   | 3  | 1  | 5  | 2  | ... | 0.0   |                   |
| 104 |                      | 1 | 5                | 123009 | 1                                      | 1   | 1  | 1  | 1  | 1  | ... | 0.0   |                   |
| 105 |                      | 1 | 4                | 3.0    | 201009                                 | 3   | 3  | 3  | 1  | 4  | 2   | ...   | 0.0               |
| 106 | 1                    | 3 | 3.0              | 201008 | 2                                      | 4   | 3  | 1  | 5  | 2  | ... | 4.0   |                   |
| 107 | 1                    | 1 | 3.0              | 201001 | 1                                      | 1   | 2  | 1  | 4  | 1  | ... | 0.0   |                   |
| 108 | 0                    | 2 | 6.0              | 132001 | 4                                      | 1   | 3  | 1  | 4  | 3  | ... | 9.0   |                   |
| 109 | 0                    | 4 | 2.0              | 110011 | 5                                      | 4   | 2  | 4  | 5  | 2  | ... | 2.0   |                   |
| 110 | 0                    | 4 | 2.0              | 110018 | 4                                      | 1   | 3  | 3  | 5  | 1  | ... | 1.0   |                   |
| 111 | 0                    | 3 | 8.0              | 244001 | 5                                      | 3   | 3  | 2  | 5  | 1  | ... | 3.0   |                   |
| 112 | 0                    | 3 | 1.0              | 203001 | 2                                      | 1   | 3  | 1  | 4  | 2  | ... | 1.0   |                   |
| 113 | 0                    | 3 | 2.0              | 110009 | 5                                      | 4   | 4  | 3  | 5  | 1  | ... | 0.0   |                   |
| 114 | 1                    | 2 | 2.0              | 110030 | 5                                      | 5   | 2  | 1  | 2  | 3  | ... | 1.0   |                   |
| 115 | 1                    | 2 | 4.0              | 201308 | 4                                      | 5   | 3  | 1  | 4  | 2  | ... | 7.0   |                   |
| 116 | 1                    | 2 | 0.0              | 560037 | 3                                      | 2   | 2  | 1  | 2  | 3  | ... | 5.0   |                   |
| 117 | 0                    | 3 | 9.0              | 201308 | 5                                      | 5   | 2  | 1  | 4  | 2  | ... | 6.0   |                   |
| 118 | 1                    | 1 | 10.0             | 173229 | 3                                      | 1   | 2  | 1  | 4  | 2  | ... | 0.0   |                   |
| 119 | 1                    | 3 | 2.0              | 110039 | 1                                      | 1   | 2  | 2  | 5  | 1  | ... | 8.0   |                   |
| 120 | 1                    | 4 | 9.0              | 201308 | 5                                      | 1   | 2  | 2  | 5  | 1  | ... | 8.0   |                   |
| 121 | 1                    | 5 | 5.0              | 122018 | 3                                      | 1   | 2  | 2  | 5  | 1  | ... | 7.0   |                   |
| 122 | 1                    | 3 | 4.0              | 201310 | 5                                      | 2   | 2  | 2  | 5  | 1  | ... | 2.0   |                   |
| 123 | 1                    | 3 | 10.0             | 173212 | 4                                      | 1   | 3  | 2  | 5  | 1  | ... | 0.0   |                   |
| 124 | 1                    | 2 | 10.0             | 173212 | 2                                      | 1   | 3  | 1  | 4  | 2  | ... | 0.0   |                   |
| 125 | 1                    | 5 | 5.0              | 122009 | 1                                      | 1   | 2  | 1  | 4  | 3  | ... | 2.0   |                   |
| 126 | 1                    | 4 | 3.0              | 201009 | 3                                      | 4   | 3  | 1  | 4  | 2  | ... | 0.0   |                   |
| 127 | 1                    | 3 | 3.0              | 201008 | 2                                      | 4   | 3  | 1  | 5  | 2  | ... | 4.0   |                   |
| 128 | 1                    | 1 | 3.0              | 201001 | 1                                      | 1   | 2  | 1  | 4  | 1  | ... | 0.0   |                   |
| 129 | 0                    | 2 | 6.0              | 132001 | 4                                      | 1   | 3  | 1  | 4  | 3  | ... | 9.0   |                   |
| 130 | 0                    | 4 | 2.0              | 110011 | 5                                      | 4   | 2  | 4  | 5  | 2  | ... | 2.0   |                   |
| 131 | 0                    | 4 | 2.0              | 110018 | 4                                      | 1   | 3  | 3  | 5  | 1  | ... | 1.0   |                   |
| 132 | 0                    | 3 | 8.0              | 244001 | 5                                      | 3   | 3  | 2  | 5  | 1  | ... | 3.0   |                   |
| 133 | 0                    | 3 | 1.0              | 203001 | 2                                      | 1   | 3  | 1  | 4  | 2  | ... | 1.0   |                   |
| 134 | 0                    | 3 | 2.0              | 110009 | 5                                      | 4   | 4  | 3  | 5  | 1  | ... | 0.0   |                   |
| 135 | 1                    | 1 | 10.0             | 173229 | 3                                      | 1   | 2  | 1  | 4  | 2  | ... | 0.0   |                   |
| 136 | 1                    | 3 | 9.0              | 201308 | 5                                      | 5   | 2  | 1  | 4  | 2  | ... | 6.0   |                   |
| 137 | 0                    | 3 | 8.0              | 244001 | 5                                      | 3   | 3  | 2  | 5  | 1  | ... | 3.0   |                   |
| 138 | 1                    | 2 | 4.0              | 201308 | 4                                      | 5   | 3  | 1  | 4  | 2  | ... | 7.0   |                   |
| 139 | 0                    | 2 | 6.0              | 132001 | 4                                      | 1   | 3  | 1  | 4  | 3  | ... | 9.0   |                   |
| 140 | 0                    | 4 | 2.0              | 110011 | 5                                      | 4   | 2  | 4  | 5  | 2  | ... | 2.0   |                   |
| 141 | 1                    | 4 | 9.0              | 201308 | 5                                      | 1   | 2  | 2  | 5  | 1  | ... | 8.0   |                   |
| 142 | 1                    | 2 | 0.0              | 560037 | 3                                      | 2   | 2  | 1  | 2  | 3  | ... | 5.0   |                   |
| 143 | 0                    | 4 | 2.0              | 110018 | 4                                      | 1   | 3  | 3  | 5  | 1  | ... | 1.0   |                   |
| 144 | 1                    | 3 | 2.0              | 110039 | 1                                      | 1   | 2  | 2  | 5  | 1  | ... | 8.0   |                   |

|     |                      |   |                         |        |                                      |   |  |   |   |    |     |   |
|-----|----------------------|---|-------------------------|--------|--------------------------------------|---|--|---|---|----|-----|---|
| 145 | 1                    | 2 | 2.0                     | 410030 | 5                                    | 6 | 2  | 1 | 2 | 3  | ... | 1.0   |
| 146 | 1                    | 5 | 3                       | 122018 | 5                                    | 3 | 7  | 2 | 9 | 10 | ... | 7.0   |
| 147 | Gender of respondent | 1 | How old are you?        | 5.0    | Code of Long You are Shopping Online | 2 | How do you access the internet while shopping on-line? | 8 | 9 | 10 | ... | Longer time to get logged in (promotion sales period) |
| 148 |                      | 1 | Where do you shop from? | 4.0    | 201306                               | 2 | 2  | 2 | 5 | 5  | ... | 7.0   |
| 149 |                      | 1 | 4                       | 560001 | 2                                    | 4 | 3  | 2 | 2 | 2  | ... | 7.0   |
| 150 |                      | 1 | 2                       | 4.0    | 201306                               | 1 | 4  | 2 | 5 | 1  | ... | 7.0   |
| 151 | 1                    | 3 | 6.0                     | 132001 | 5                                    | 4 | 3  | 2 | 5 | 1  | ... | 2.0   |
| 152 | 1                    | 5 | 5.0                     | 122018 | 3                                    | 1 | 2  | 2 | 5 | 1  | ... | 7.0   |
| 153 | 1                    | 3 | 4.0                     | 201310 | 5                                    | 2 | 2  | 2 | 5 | 1  | ... | 2.0   |
| 154 | 1                    | 4 | 4.0                     | 201308 | 1                                    | 1 | 3  | 1 | 4 | 3  | ... | 2.0   |
| 155 | 1                    | 5 | 5.0                     | 122009 | 1                                    | 1 | 2  | 1 | 4 | 3  | ... | 2.0   |
| 156 | 1                    | 4 | 7.0                     | 250001 | 3                                    | 4 | 3  | 3 | 5 | 1  | ... | 1.0   |
| 157 | 1                    | 5 | 0.0                     | 560037 | 5                                    | 4 | 3  | 3 | 5 | 1  | ... | 1.0   |
| 158 | 1                    | 2 | 0.0                     | 560003 | 5                                    | 4 | 3  | 3 | 5 | 1  | ... | 1.0   |
| 159 | 1                    | 3 | 6.0                     | 132036 | 1                                    | 4 | 3  | 1 | 2 | 3  | ... | 5.0   |
| 160 | 1                    | 3 | 2.0                     | 110014 | 1                                    | 1 | 3  | 2 | 5 | 1  | ... | 8.0   |
| 161 | 1                    | 2 | 6.0                     | 132001 | 5                                    | 4 | 3  | 2 | 5 | 1  | ... | 8.0   |
| 162 | 1                    | 2 | 0.0                     | 530068 | 3                                    | 2 | 2  | 1 | 2 | 3  | ... | 5.0   |
| 163 | 1                    | 3 | 2.0                     | 110044 | 1                                    | 1 | 2  | 2 | 5 | 1  | ... | 8.0   |
| 164 | 1                    | 3 | 4.0                     | 201310 | 5                                    | 5 | 3  | 1 | 4 | 3  | ... | 9.0   |
| 165 | 1                    | 4 | 4.0                     | 201312 | 1                                    | 5 | 3  | 1 | 4 | 2  | ... | 7.0   |
| 166 | 1                    | 2 | 7.0                     | 250001 | 5                                    | 4 | 3  | 1 | 4 | 3  | ... | 9.0   |
| 167 | 1                    | 3 | 4.0                     | 201308 | 3                                    | 4 | 3  | 1 | 4 | 2  | ... | 7.0   |
| 168 | 1                    | 2 | 4.0                     | 201310 | 5                                    | 4 | 3  | 2 | 5 | 1  | ... | 8.0   |
| 169 | 1                    | 2 | 2.0                     | 110008 | 5                                    | 5 | 2  | 2 | 5 | 1  | ... | 8.0   |
| 170 | 1                    | 2 | 4.0                     | 201308 | 4                                    | 5 | 3  | 1 | 4 | 2  | ... | 7.0   |
| 171 | 1                    | 4 | 9.0                     | 201308 | 5                                    | 1 | 2  | 2 | 5 | 1  | ... | 8.0   |
| 172 | 1                    | 4 | 6.0                     | 132001 | 5                                    | 5 | 3  | 3 | 5 | 1  | ... | 0.0   |
| 173 | 1                    | 2 | 0.0                     | 560002 | 5                                    | 1 | 3  | 1 | 5 | 2  | ... | 4.0   |
| 174 | 1                    | 3 | 3.0                     | 201008 | 2                                    | 4 | 3  | 1 | 5 | 2  | ... | 4.0   |
| 175 | 1                    | 1 | 3.0                     | 201001 | 1                                    | 1 | 2  | 1 | 4 | 1  | ... | 0.0   |
| 176 | 1                    | 4 | 0.0                     | 560018 | 4                                    | 2 | 3  | 1 | 4 | 2  | ... | 6.0   |
| 177 | 1                    | 3 | 3.0                     | 201005 | 5                                    | 5 | 2  | 1 | 4 | 2  | ... | 6.0   |
| 178 | 1                    | 4 | 0.0                     | 560010 | 3                                    | 1 | 3  | 2 | 5 | 1  | ... | 0.0   |
| 179 | 1                    | 2 | 6.0                     | 132036 | 5                                    | 1 | 3  | 1 | 4 | 2  | ... | 0.0   |
| 180 | 1                    | 1 | 10.0                    | 173229 | 3                                    | 1 | 2  | 1 | 4 | 2  | ... | 0.0   |
| 181 | 1                    | 3 | 10.0                    | 173212 | 4                                    | 1 | 3  | 2 | 5 | 1  | ... | 0.0   |
| 182 | 1                    | 2 | 10.0                    | 173212 | 2                                    | 1 | 3  | 1 | 4 | 2  | ... | 0.0   |
| 183 | 1                    | 4 | 3.0                     | 201009 | 3                                    | 4 | 3  | 1 | 4 | 2  | ... | 0.0   |
| 184 | 0                    | 4 | 2.0                     | 110044 | 3                                    | 1 | 3  | 1 | 2 | 3  | ... | 1.0   |
| 185 | 0                    | 1 | 2.0                     | 110042 | 4                                    | 5 | 3  | 1 | 2 | 3  | ... | 1.0   |
| 186 | 0                    | 3 | 9.0                     | 201310 | 4                                    | 1 | 3  | 2 | 5 | 1  | ... | 8.0   |
| 187 | 0                    | 1 | 9.0                     | 201308 | 3                                    | 1 | 3  | 1 | 4 | 2  | ... | 7.0   |
| 188 | 0                    | 3 | 2.0                     | 110014 | 1                                    | 1 | 3  | 1 | 4 | 3  | ... | 9.0   |
| 189 | 0                    | 2 | 2.0                     | 110044 | 3                                    | 5 | 3  | 2 | 5 | 1  | ... | 8.0   |

|     |                      |                  |                         |   |                                   |   |  |  |  |   |     |   |                  |
|-----|----------------------|------------------|-------------------------|---|-----------------------------------|---|--|--|--|---|-----|---|------------------|
| 190 | 0                    | 4                | 2.0                     | 410044                                  | 3                                 | 6   | 3  | 1  | 4  | 3   | ... | 9.0   |                  |
| 191 | 0                    | 2                | 2.0                     | 201308                                  | 5                                 | 5   | 7  | 4  | 10   | 3   | ... | 9.0   |                  |
| 192 | Gender of respondent | How old are you? | When did you shop from? | What is the Code of city you shop from? | How Long You are Shopping Online? | How many times you have made an online purchase in the past 1 year? | How do you access the internet while shopping on-line? | Which device do you use to access the online shopping? | What is the screen size of your mobile device? | What is the operating system (OS) of your device? | ... | Longer time to get logged in (promotion period) | disgr and (prom) |
| 193 |                      | 0                | 9.0                     | 201304                                  | 4                                 | 1   | 3  | 3  | 5  | ...   | 0.0 |   |                  |
| 194 |                      | 0                | 4                       | 9.0                                     | 201309                            | 3   | 1  | 2  | 3  | 1   | ... | 0.0   |                  |
| 195 |                      | 0                | 3                       | 9.0                                     | 201309                            | 4   | 9  | 3  | 1  | 4   | 1   | ...   | 0.0              |
| 196 | 0                    | 2                | 0.0                     | 560013                                  | 1                                 | 1   | 3  | 1  | 4  | 2   | ... | 1.0   |                  |
| 197 | 0                    | 5                | 9.0                     | 201305                                  | 3                                 | 5   | 3  | 1  | 4  | 2   | ... | 0.0   |                  |
| 198 | 0                    | 4                | 2.0                     | 110008                                  | 3                                 | 4   | 3  | 1  | 4  | 2   | ... | 0.0   |                  |
| 199 | 1                    | 4                | 0.0                     | 560010                                  | 3                                 | 1   | 3  | 2  | 5  | 1   | ... | 0.0   |                  |
| 200 | 1                    | 2                | 6.0                     | 132036                                  | 5                                 | 1   | 3  | 1  | 4  | 2   | ... | 0.0   |                  |
| 201 | 1                    | 1                | 10.0                    | 173229                                  | 3                                 | 1   | 2  | 1  | 4  | 2   | ... | 0.0   |                  |
| 202 | 1                    | 3                | 10.0                    | 173212                                  | 4                                 | 1   | 3  | 2  | 5  | 1   | ... | 0.0   |                  |
| 203 | 1                    | 2                | 10.0                    | 173212                                  | 2                                 | 1   | 3  | 1  | 4  | 2   | ... | 0.0   |                  |
| 204 | 1                    | 4                | 3.0                     | 201009                                  | 3                                 | 4   | 3  | 1  | 4  | 2   | ... | 0.0   |                  |
| 205 | 0                    | 5                | 9.0                     | 201305                                  | 3                                 | 5   | 3  | 1  | 4  | 2   | ... | 0.0   |                  |
| 206 | 0                    | 4                | 2.0                     | 110008                                  | 3                                 | 4   | 3  | 1  | 4  | 2   | ... | 0.0   |                  |
| 207 | 0                    | 2                | 0.0                     | 560013                                  | 1                                 | 1   | 3  | 1  | 4  | 2   | ... | 1.0   |                  |
| 208 | 1                    | 4                | 0.0                     | 560018                                  | 4                                 | 2   | 3  | 1  | 4  | 2   | ... | 6.0   |                  |
| 209 | 1                    | 3                | 3.0                     | 201005                                  | 5                                 | 5   | 2  | 1  | 4  | 2   | ... | 6.0   |                  |
| 210 | 1                    | 4                | 6.0                     | 132001                                  | 5                                 | 5   | 3  | 3  | 5  | 1   | ... | 0.0   |                  |
| 211 | 1                    | 2                | 0.0                     | 560002                                  | 5                                 | 1   | 3  | 1  | 5  | 2   | ... | 4.0   |                  |
| 212 | 1                    | 3                | 3.0                     | 201008                                  | 2                                 | 4   | 3  | 1  | 5  | 2   | ... | 4.0   |                  |
| 213 | 1                    | 1                | 3.0                     | 201001                                  | 1                                 | 1   | 2  | 1  | 4  | 1   | ... | 0.0   |                  |
| 214 | 0                    | 3                | 9.0                     | 201304                                  | 4                                 | 1   | 3  | 3  | 5  | 1   | ... | 0.0   |                  |
| 215 | 0                    | 4                | 9.0                     | 201308                                  | 5                                 | 1   | 3  | 2  | 5  | 1   | ... | 3.0   |                  |
| 216 | 0                    | 3                | 9.0                     | 201303                                  | 4                                 | 3   | 3  | 1  | 4  | 1   | ... | 0.0   |                  |
| 217 | 1                    | 3                | 4.0                     | 201310                                  | 5                                 | 5   | 3  | 1  | 4  | 3   | ... | 9.0   |                  |
| 218 | 1                    | 4                | 4.0                     | 201312                                  | 1                                 | 5   | 3  | 1  | 4  | 2   | ... | 7.0   |                  |
| 219 | 1                    | 2                | 7.0                     | 250001                                  | 5                                 | 4   | 3  | 1  | 4  | 3   | ... | 9.0   |                  |
| 220 | 1                    | 3                | 4.0                     | 201308                                  | 3                                 | 4   | 3  | 1  | 4  | 2   | ... | 7.0   |                  |
| 221 | 1                    | 2                | 4.0                     | 201310                                  | 5                                 | 4   | 3  | 2  | 5  | 1   | ... | 8.0   |                  |
| 222 | 1                    | 2                | 2.0                     | 110008                                  | 5                                 | 5   | 2  | 2  | 5  | 1   | ... | 8.0   |                  |
| 223 | 1                    | 2                | 4.0                     | 201308                                  | 4                                 | 5   | 3  | 1  | 4  | 2   | ... | 7.0   |                  |
| 224 | 1                    | 4                | 9.0                     | 201308                                  | 5                                 | 1   | 2  | 2  | 5  | 1   | ... | 8.0   |                  |
| 225 | 0                    | 1                | 9.0                     | 201308                                  | 3                                 | 1   | 3  | 1  | 4  | 2   | ... | 7.0   |                  |
| 226 | 0                    | 3                | 2.0                     | 110014                                  | 1                                 | 1   | 3  | 1  | 4  | 3   | ... | 9.0   |                  |
| 227 | 0                    | 2                | 2.0                     | 110044                                  | 3                                 | 5   | 3  | 2  | 5  | 1   | ... | 8.0   |                  |
| 228 | 0                    | 4                | 2.0                     | 110044                                  | 3                                 | 1   | 3  | 1  | 4  | 3   | ... | 9.0   |                  |
| 229 | 0                    | 2                | 9.0                     | 201308                                  | 5                                 | 2   | 3  | 4  | 5  | 2   | ... | 2.0   |                  |
| 230 | 0                    | 2                | 6.0                     | 132001                                  | 4                                 | 1   | 3  | 1  | 4  | 3   | ... | 9.0   |                  |
| 231 | 1                    | 4                | 7.0                     | 250001                                  | 3                                 | 4   | 3  | 3  | 5  | 1   | ... | 1.0   |                  |
| 232 | 1                    | 5                | 0.0                     | 560037                                  | 5                                 | 4   | 3  | 3  | 5  | 1   | ... | 1.0   |                  |
| 233 | 1                    | 2                | 0.0                     | 560003                                  | 5                                 | 4   | 3  | 3  | 5  | 1   | ... | 1.0   |                  |
| 234 | 1                    | 3                | 6.0                     | 132036                                  | 1                                 | 4   | 3  | 1  | 2  | 3   | ... | 5.0   |                  |

|     |   |   |      |        |   |   |   |   |   |    |     |     |
|-----|---|---|------|--------|---|---|---|---|---|----|-----|-----|
| 235 | 1 | 3 | 2.0  | 410094 | 1 | 6 | 3 | 2 | 5 | 1  | ... | 8.0 |
| 236 | 1 | 2 | 3    | 132001 | 5 | 5 | 4 | 2 | 9 | 10 | ... | 8.0 |
| 237 | 1 | 2 | 0.0  | 530068 | 3 | 2 | 2 | 1 | 2 | 3  | ... | 5.0 |
| 238 | 1 | 1 | 2.0  | 110044 | 1 | 1 | 2 | 2 | 5 | 1  | ... | 8.0 |
| 239 | 0 | 3 | 2.0  | 201009 | 2 | 2 | 2 | 2 | 3 | 3  | ... | 8.0 |
| 240 | 1 | 4 | 4.0  | 201009 | 1 | 1 | 3 | 1 | 4 | 3  | ... | 2.0 |
| 241 | 1 | 5 | 5.0  | 122009 | 1 | 1 | 2 | 1 | 4 | 3  | ... | 2.0 |
| 242 | 1 | 3 | 4.0  | 201306 | 5 | 2 | 3 | 2 | 5 | 1  | ... | 7.0 |
| 243 | 1 | 4 | 0.0  | 560010 | 4 | 4 | 3 | 1 | 2 | 3  | ... | 1.0 |
| 244 | 1 | 2 | 4.0  | 201306 | 1 | 4 | 3 | 2 | 5 | 1  | ... | 7.0 |
| 245 | 1 | 3 | 6.0  | 132001 | 5 | 4 | 3 | 2 | 5 | 1  | ... | 2.0 |
| 246 | 1 | 5 | 5.0  | 122018 | 3 | 1 | 2 | 2 | 5 | 1  | ... | 7.0 |
| 247 | 1 | 3 | 4.0  | 201310 | 5 | 2 | 2 | 2 | 5 | 1  | ... | 2.0 |
| 248 | 0 | 4 | 2.0  | 110044 | 3 | 1 | 3 | 1 | 2 | 3  | ... | 1.0 |
| 249 | 0 | 1 | 2.0  | 110042 | 4 | 5 | 3 | 1 | 2 | 3  | ... | 1.0 |
| 250 | 0 | 3 | 2.0  | 110009 | 5 | 4 | 4 | 3 | 5 | 1  | ... | 0.0 |
| 251 | 1 | 1 | 10.0 | 173229 | 3 | 1 | 2 | 1 | 4 | 2  | ... | 0.0 |
| 252 | 0 | 2 | 6.0  | 132001 | 4 | 1 | 3 | 1 | 4 | 3  | ... | 9.0 |
| 253 | 0 | 4 | 2.0  | 110011 | 5 | 4 | 2 | 4 | 5 | 2  | ... | 2.0 |
| 254 | 1 | 5 | 5.0  | 122018 | 3 | 1 | 2 | 2 | 5 | 1  | ... | 7.0 |
| 255 | 0 | 3 | 8.0  | 244001 | 5 | 3 | 3 | 2 | 5 | 1  | ... | 3.0 |
| 256 | 1 | 4 | 9.0  | 201308 | 5 | 1 | 2 | 2 | 5 | 1  | ... | 8.0 |
| 257 | 1 | 3 | 2.0  | 110039 | 1 | 1 | 2 | 2 | 5 | 1  | ... | 8.0 |
| 258 | 1 | 2 | 2.0  | 110030 | 5 | 5 | 2 | 1 | 2 | 3  | ... | 1.0 |
| 259 | 1 | 3 | 4.0  | 201310 | 5 | 2 | 2 | 2 | 5 | 1  | ... | 2.0 |
| 260 | 1 | 3 | 9.0  | 201308 | 5 | 5 | 2 | 1 | 4 | 2  | ... | 6.0 |
| 261 | 1 | 2 | 4.0  | 201308 | 4 | 5 | 3 | 1 | 4 | 2  | ... | 7.0 |
| 262 | 1 | 2 | 0.0  | 560037 | 3 | 2 | 2 | 1 | 2 | 3  | ... | 5.0 |
| 263 | 0 | 4 | 2.0  | 110018 | 4 | 1 | 3 | 3 | 5 | 1  | ... | 1.0 |
| 264 | 1 | 2 | 10.0 | 173212 | 2 | 1 | 3 | 1 | 4 | 2  | ... | 0.0 |
| 265 | 1 | 3 | 3.0  | 201008 | 2 | 4 | 3 | 1 | 5 | 2  | ... | 4.0 |
| 266 | 1 | 4 | 0.0  | 560010 | 3 | 1 | 3 | 2 | 5 | 1  | ... | 0.0 |
| 267 | 1 | 1 | 10.0 | 173229 | 3 | 1 | 2 | 1 | 4 | 2  | ... | 0.0 |
| 268 | 1 | 4 | 3.0  | 201009 | 3 | 4 | 3 | 1 | 4 | 2  | ... | 0.0 |

269 rows x 71 columns



## More DATA CLENSING

In [26]:

```
df.drop('4 What is the Pin Code of where you shop online from?',axis=1,inplace=True)
```

In [27]:

```
df
```

Out[27]:

| 1Gender of respondent | 2 How old are you? | 3 Which city do you shop online from? | 4 Since How Long You are Shopping Online ? | 5 How many times you have made an online purchase in the past 1 year? | 6 How do you access the internet while shopping on-line? | 7 Which device do you use to access the online shopping? | 8 What is the screen size of your mobile device? | 9 What is the operating system (OS) of your device? | 10 What browser do you run on your device to access the website? | 11 Longer time to get logged in (promotion, sales period) | 12 d an (pr |
|-----------------------|--------------------|---------------------------------------|--|---|--|--|--|---|--|---|-------------|
| 0                     | 0                  | 3                                     | 2.0  | 5   | 4  | 4  | 3  | 5   | 1  | 1 ...   | 0.0         |
| 1                     | 1                  | 2                                     | 2.0  | 5   | 5  | 2  | 1  | 2   | 3  | 1 ...   | 1.0         |
| 2                     | 1                  | 2                                     | 4.0  | 4   | 5  | 3  | 1  | 4   | 2  | 1 ...   | 7.0         |
| 3                     | 0                  | 2                                     | 6.0  | 4   | 1  | 3  | 1  | 4   | 3  | 2 ...   | 9.0         |
| 4                     | 1                  | 2                                     | 0.0  | 3   | 2  | 2  | 1  | 2   | 3  | 2 ...   | 5.0         |
| 5                     | 1                  | 3                                     | 9.0  | 5   | 5  | 2  | 1  | 4   | 2  | 1 ...   | 6.0         |
| 6                     | 0                  | 4                                     | 2.0  | 5   | 4  | 2  | 4  | 5   | 2  | 1 ...   | 2.0         |
| 7                     | 0                  | 4                                     | 2.0  | 4   | 1  | 3  | 3  | 5   | 1  | 1 ...   | 1.0         |
| 8                     | 1                  | 1                                     | 10.0                                       | 3   | 1  | 2  | 1  | 4   | 2  | 1 ...   | 0.0         |
| 9                     | 1                  | 3                                     | 2.0  | 1   | 1  | 2  | 2  | 5   | 1  | 1 ...   | 8.0         |
| 10                    | 0                  | 3                                     | 8.0  | 5   | 3  | 3  | 2  | 5   | 1  | 1 ...   | 3.0         |
| 11                    | 1                  | 4                                     | 9.0  | 5   | 1  | 2  | 2  | 5   | 1  | 1 ...   | 8.0         |
| 12                    | 1                  | 5                                     | 5.0  | 3   | 1  | 2  | 2  | 5   | 1  | 1 ...   | 7.0         |
| 13                    | 1                  | 3                                     | 4.0  | 5   | 2  | 2  | 2  | 5   | 1  | 1 ...   | 2.0         |
| 14                    | 1                  | 2                                     | 6.0  | 1   | 5  | 2  | 1  | 4   | 2  | 1 ...   | 7.0         |
| 15                    | 1                  | 2                                     | 0.0  | 3   | 5  | 3  | 1  | 4   | 3  | 2 ...   | 9.0         |
| 16                    | 0                  | 3                                     | 9.0  | 2   | 3  | 3  | 2  | 5   | 3  | 2 ...   | 5.0         |
| 17                    | 0                  | 4                                     | 2.0  | 1   | 1  | 2  | 2  | 5   | 1  | 1 ...   | 6.0         |
| 18                    | 1                  | 4                                     | 2.0  | 2   | 1  | 2  | 2  | 5   | 1  | 1 ...   | 2.0         |
| 19                    | 1                  | 2                                     | 10.0                                       | 2   | 2  | 2  | 1  | 4   | 3  | 2 ...   | 9.0         |
| 20                    | 1                  | 2                                     | 9.0  | 2   | 5  | 2  | 1  | 2   | 3  | 2 ...   | 5.0         |
| 21                    | 0                  | 3                                     | 5.0  | 4   | 4  | 2  | 4  | 4   | 2  | 1 ...   | 1.0         |
| 22                    | 0                  | 4                                     | 4.0  | 5   | 4  | 3  | 4  | 4   | 2  | 1 ...   | 0.0         |
| 23                    | 1                  | 4                                     | 4.0  | 5   | 5  | 5  | 3  | 5   | 1  | 1 ...   | 8.0         |
| 24                    | 1                  | 2                                     | 7.0  | 4   | 5  | 5  | 1  | 4   | 1  | 1 ...   | 3.0         |
| 25                    | 1                  | 2                                     | 0.0  | 3   | 1  | 5  | 2  | 5   | 1  | 1 ...   | 8.0         |
| 26                    | 0                  | 2                                     | 3.0  | 1   | 2  | 5  | 2  | 5   | 1  | 1 ...   | 7.0         |
| 27                    | 0                  | 3                                     | 2.0  | 5   | 5  | 5  | 2  | 5   | 1  | 1 ...   | 2.0         |
| 28                    | 1                  | 4                                     | 4.0  | 5   | 4  | 5  | 2  | 5   | 1  | 1 ...   | 7.0         |
| 29                    | 1                  | 4                                     | 6.0  | 3   | 1  | 5  | 2  | 5   | 3  | 2 ...   | 9.0         |
| 30                    | 1                  | 1                                     | 0.0  | 5   | 1  | 5  | 1  | 2   | 3  | 2 ...   | 5.0         |
| 31                    | 0                  | 3                                     | 9.0  | 3   | 1  | 5  | 3  | 5   | 1  | 1 ...   | 0.0         |
| 32                    | 0                  | 3                                     | 2.0  | 5   | 3  | 5  | 1  | 2   | 3  | 1 ...   | 1.0         |
| 33                    | 1                  | 4                                     | 4.0  | 5   | 1  | 5  | 1  | 4   | 2  | 1 ...   | 7.0         |
| 34                    | 1                  | 5                                     | 6.0  | 4   | 1  | 5  | 1  | 4   | 3  | 2 ...   | 9.0         |
| 35                    | 1                  | 2                                     | 0.0  | 3   | 2  | 5  | 1  | 2   | 3  | 2 ...   | 5.0         |
| 36                    | 0                  | 3                                     | 9.0  | 1   | 1  | 5  | 1  | 4   | 2  | 1 ...   | 6.0         |
| 37                    | 0                  | 4                                     | 2.0  | 5   | 2  | 5  | 4  | 5   | 2  | 1 ...   | 2.0         |

|    |                      |                  |                                     |                                   |   |   |  |  |   |   |  |   |
|----|----------------------|------------------|-------------------------------------|-----------------------------------|---|---|--|--|---|---|--|---|
| 37 | 0                    | 1                | 2.0                                 | 5                                 | 2   | 0   | 1  | 0  | 2   | 1   | ...  | 2.0   |
| 38 | 1                    | 4                | 4.0                                 | 5                                 | 6   | How many times you have made an online purchase in the past 1 year? | 5  | 3  | 5   | 1   | 11 What browser do you run on your device to access the website? | 1.0   |
| 39 | 1                    | 2                | 2.0                                 | 5                                 | 3   | How do you access the internet while shopping on-line?              | 8  | Which device do you use to access the online shopping? | 10  | What is the operating system (OS) of your device?             | ...  | Longer time to get logged in (promotion sales period) |
| 40 | Gender of respondent | How old are you? | Which city do you shop online from? | How Long You are Shopping Online? | How many times you have made an online purchase in the past 1 year? | How do you access the internet while shopping on-line?              | Which device do you use to access the online shopping? | What is the screen size of your mobile device?         | What is the operating system (OS) of your device? | What browser do you run on your device to access the website? | ...  | Longer time to get logged in (promotion sales period) |
| 41 | 0                    | 2                | 0.0                                 | 1                                 | 4   | 5   | 2  | 5  | 1   | ...   | ...  | ...   |
| 42 | 0                    | 2                | 0.0                                 | 3                                 | 3   | 5   | 2  | 3  | 1   | ...   | ...  | ...   |
| 43 | 1                    | 2                | 4.0                                 | 1                                 | 1   | 5   | 2  | 5  | 1   | ...   | ...  | ...   |
| 44 | 1                    | 3                | 7.0                                 | 5                                 | 2   | 5   | 3  | 5  | 1   | 1   | ...  | 0.0   |
| 45 | 1                    | 4                | 0.0                                 | 5                                 | 5   | 5   | 1  | 2  | 3   | 1   | ...  | 1.0   |
| 46 | 0                    | 4                | 9.0                                 | 5                                 | 4   | 5   | 1  | 4  | 2   | 1   | ...  | 7.0   |
| 47 | 0                    | 1                | 2.0                                 | 5                                 | 1   | 5   | 1  | 4  | 3   | 2   | ...  | 9.0   |
| 48 | 1                    | 3                | 4.0                                 | 3                                 | 1   | 5   | 1  | 4  | 3   | 2   | ...  | 9.0   |
| 49 | 1                    | 3                | 6.0                                 | 5                                 | 5   | 5   | 1  | 2  | 3   | 2   | ...  | 5.0   |
| 50 | 1                    | 4                | 0.0                                 | 4                                 | 4   | 5   | 1  | 4  | 2   | 1   | ...  | 6.0   |
| 51 | 0                    | 5                | 9.0                                 | 3                                 | 4   | 5   | 4  | 5  | 2   | 1   | ...  | 2.0   |
| 52 | 0                    | 4                | 2.0                                 | 1                                 | 5   | 5   | 3  | 5  | 1   | 1   | ...  | 1.0   |
| 53 | 1                    | 4                | 4.0                                 | 5                                 | 5   | 5   | 3  | 5  | 1   | 1   | ...  | 1.0   |
| 54 | 1                    | 2                | 7.0                                 | 5                                 | 1   | 5   | 1  | 4  | 2   | 1   | ...  | 0.0   |
| 55 | 1                    | 2                | 0.0                                 | 4                                 | 2   | 5   | 2  | 5  | 1   | 1   | ...  | 8.0   |
| 56 | 0                    | 2                | 9.0                                 | 3                                 | 5   | 5   | 2  | 5  | 1   | 1   | ...  | 3.0   |
| 57 | 0                    | 2                | 2.0                                 | 1                                 | 1   | 5   | 2  | 5  | 1   | 1   | ...  | 8.0   |
| 58 | 1                    | 3                | 4.0                                 | 5                                 | 2   | 5   | 2  | 5  | 1   | 1   | ...  | 7.0   |
| 59 | 1                    | 4                | 6.0                                 | 5                                 | 5   | 5   | 3  | 5  | 1   | 1   | ...  | 0.0   |
| 60 | 1                    | 4                | 0.0                                 | 4                                 | 4   | 5   | 1  | 2  | 3   | 1   | ...  | 1.0   |
| 61 | 0                    | 1                | 9.0                                 | 3                                 | 1   | 5   | 1  | 4  | 2   | 1   | ...  | 7.0   |
| 62 | 0                    | 3                | 2.0                                 | 1                                 | 1   | 5   | 1  | 4  | 3   | 2   | ...  | 9.0   |
| 63 | 1                    | 3                | 4.0                                 | 5                                 | 5   | 5   | 1  | 4  | 3   | 2   | ...  | 9.0   |
| 64 | 1                    | 4                | 7.0                                 | 3                                 | 4   | 5   | 3  | 5  | 1   | 1   | ...  | 1.0   |
| 65 | 1                    | 5                | 0.0                                 | 5                                 | 4   | 5   | 3  | 5  | 1   | 1   | ...  | 1.0   |
| 66 | 0                    | 3                | 9.0                                 | 4                                 | 1   | 5   | 3  | 5  | 1   | 1   | ...  | 0.0   |
| 67 | 0                    | 4                | 2.0                                 | 3                                 | 1   | 5   | 1  | 2  | 3   | 1   | ...  | 1.0   |
| 68 | 1                    | 4                | 4.0                                 | 1                                 | 5   | 5   | 1  | 4  | 2   | 1   | ...  | 7.0   |
| 69 | 1                    | 2                | 7.0                                 | 5                                 | 4   | 5   | 1  | 4  | 3   | 2   | ...  | 9.0   |
| 70 | 1                    | 2                | 0.0                                 | 5                                 | 4   | 5   | 3  | 5  | 1   | 1   | ...  | 1.0   |
| 71 | 0                    | 3                | 9.0                                 | 4                                 | 1   | 5   | 2  | 5  | 1   | 1   | ...  | 8.0   |
| 72 | 0                    | 2                | 2.0                                 | 3                                 | 5   | 5   | 2  | 5  | 1   | 1   | ...  | 8.0   |
| 73 | 1                    | 2                | 4.0                                 | 1                                 | 4   | 5   | 2  | 5  | 1   | 1   | ...  | 7.0   |
| 74 | 1                    | 3                | 6.0                                 | 5                                 | 4   | 5   | 2  | 5  | 1   | 1   | ...  | 2.0   |
| 75 | 1                    | 4                | 0.0                                 | 3                                 | 1   | 5   | 2  | 5  | 1   | 1   | ...  | 0.0   |
| 76 | 0                    | 4                | 9.0                                 | 5                                 | 1   | 5   | 2  | 5  | 1   | 1   | ...  | 3.0   |
| 77 | 0                    | 1                | 2.0                                 | 4                                 | 5   | 5   | 1  | 2  | 3   | 1   | ...  | 1.0   |
| 78 | 1                    | 3                | 4.0                                 | 3                                 | 4   | 5   | 1  | 4  | 2   | 1   | ...  | 7.0   |
| 79 | 1                    | 3                | 6.0                                 | 1                                 | 4   | 5   | 1  | 2  | 3   | 2   | ...  | 5.0   |
| 80 | 1                    | 4                | 0.0                                 | 4                                 | 2   | 5   | 1  | 4  | 2   | 1   | ...  | 6.0   |
| 81 | 0                    | 5                | 9.0                                 | 3                                 | 5   | 5   | 1  | 4  | 2   | 1   | ...  | 0.0   |
| 82 | 0                    | 4                | 2.0                                 | 3                                 | 4   | 5   | 1  | 4  | 2   | 4   | ...  | 0.0   |

| Q1  | Q2 | Q3 | Q4   | Q5 | Q6 | Q7  | Q8 | Q9 | Q10 | Q11  | Q12 | Q13   | Q14 | Q15 |
|-----|----|----|------|----|----|---|----|----|-----|--|-----|---|-----|-----|
| 83  | 1  | 4  | 4.0  | 1  | 6  | How many times you have made an online purchase in the past 1 year? | 5  | 1  | 4   | 3  | 11  | What browser do you run on your device to access the website? | 1   | 2.0 |
| 84  | 1  | 2  | 2.0  | 5  | 5  | Since you are shopping online from?                                 | 4  | 1  | 9   | What is the screen size of your mobile device? | 10  | What is the operating system (OS) of your device?             | 1   | 9.0 |
| 85  | 1  | 2  | 0.0  | 5  | 5  | Long You are shopping Online?                                       | 1  | 1  | 5   | 5  | 2   | 3   | 1   | 9.0 |
| 86  | 1  | 2  | 0.0  | 4  | 4  | Shopping Online?  | 3  | 1  | 5   | 5  | 2   | 3   | 1   | 9.0 |
| 87  | 0  | 4  | 0.0  | 3  | 3  | Online?   | 5  | 1  | 4   | 4  | 2   | 2   | 1   | 9.0 |
| 88  | 0  | 2  | 0.0  | 1  | 1  | past 1 year?  | 5  | 1  | 4   | 4  | 2   | 2   | 1   | 9.0 |
| 89  | 0  | 2  | 9.0  | 5  | 2  | 5   | 4  | 5  | 2   | 1  | ... | 2.0   |     |     |
| 90  | 1  | 3  | 2.0  | 1  | 1  | 5   | 2  | 5  | 1   | 1  | ... | 8.0   |     |     |
| 91  | 1  | 2  | 4.0  | 5  | 4  | 5   | 2  | 5  | 1   | 1  | ... | 8.0   |     |     |
| 92  | 1  | 2  | 6.0  | 5  | 4  | 5   | 2  | 5  | 1   | 1  | ... | 8.0   |     |     |
| 93  | 1  | 2  | 2.0  | 5  | 5  | 2   | 2  | 5  | 1   | 1  | ... | 8.0   |     |     |
| 94  | 1  | 2  | 4.0  | 4  | 5  | 3   | 1  | 4  | 2   | 1  | ... | 7.0   |     |     |
| 95  | 1  | 2  | 0.0  | 3  | 2  | 2   | 1  | 2  | 3   | 2  | ... | 5.0   |     |     |
| 96  | 1  | 3  | 3.0  | 5  | 5  | 2   | 1  | 4  | 2   | 1  | ... | 6.0   |     |     |
| 97  | 1  | 1  | 10.0 | 3  | 1  | 2   | 1  | 4  | 2   | 1  | ... | 0.0   |     |     |
| 98  | 1  | 3  | 2.0  | 1  | 1  | 2   | 2  | 5  | 1   | 1  | ... | 8.0   |     |     |
| 99  | 1  | 4  | 9.0  | 5  | 1  | 2   | 2  | 5  | 1   | 1  | ... | 8.0   |     |     |
| 100 | 1  | 5  | 5.0  | 3  | 1  | 2   | 2  | 5  | 1   | 1  | ... | 7.0   |     |     |
| 101 | 1  | 3  | 4.0  | 5  | 2  | 2   | 2  | 5  | 1   | 1  | ... | 2.0   |     |     |
| 102 | 1  | 3  | 10.0 | 4  | 1  | 3   | 2  | 5  | 1   | 1  | ... | 0.0   |     |     |
| 103 | 1  | 2  | 10.0 | 2  | 1  | 3   | 1  | 4  | 2   | 4  | ... | 0.0   |     |     |
| 104 | 1  | 5  | 5.0  | 1  | 1  | 2   | 1  | 4  | 3   | 1  | ... | 2.0   |     |     |
| 105 | 1  | 4  | 3.0  | 3  | 4  | 3   | 1  | 4  | 2   | 1  | ... | 0.0   |     |     |
| 106 | 1  | 3  | 3.0  | 2  | 4  | 3   | 1  | 5  | 2   | 1  | ... | 4.0   |     |     |
| 107 | 1  | 1  | 3.0  | 1  | 1  | 2   | 1  | 4  | 1   | 1  | ... | 0.0   |     |     |
| 108 | 0  | 2  | 6.0  | 4  | 1  | 3   | 1  | 4  | 3   | 2  | ... | 9.0   |     |     |
| 109 | 0  | 4  | 2.0  | 5  | 4  | 2   | 4  | 5  | 2   | 1  | ... | 2.0   |     |     |
| 110 | 0  | 4  | 2.0  | 4  | 1  | 3   | 3  | 5  | 1   | 1  | ... | 1.0   |     |     |
| 111 | 0  | 3  | 8.0  | 5  | 3  | 3   | 2  | 5  | 1   | 1  | ... | 3.0   |     |     |
| 112 | 0  | 3  | 1.0  | 2  | 1  | 3   | 1  | 4  | 2   | 3  | ... | 1.0   |     |     |
| 113 | 0  | 3  | 2.0  | 5  | 4  | 4   | 3  | 5  | 1   | 1  | ... | 0.0   |     |     |
| 114 | 1  | 2  | 2.0  | 5  | 5  | 2   | 1  | 2  | 3   | 1  | ... | 1.0   |     |     |
| 115 | 1  | 2  | 4.0  | 4  | 5  | 3   | 1  | 4  | 2   | 1  | ... | 7.0   |     |     |
| 116 | 1  | 2  | 0.0  | 3  | 2  | 2   | 1  | 2  | 3   | 2  | ... | 5.0   |     |     |
| 117 | 0  | 3  | 9.0  | 5  | 5  | 2   | 1  | 4  | 2   | 1  | ... | 6.0   |     |     |
| 118 | 1  | 1  | 10.0 | 3  | 1  | 2   | 1  | 4  | 2   | 1  | ... | 0.0   |     |     |
| 119 | 1  | 3  | 2.0  | 1  | 1  | 2   | 2  | 5  | 1   | 1  | ... | 8.0   |     |     |
| 120 | 1  | 4  | 9.0  | 5  | 1  | 2   | 2  | 5  | 1   | 1  | ... | 8.0   |     |     |
| 121 | 1  | 5  | 5.0  | 3  | 1  | 2   | 2  | 5  | 1   | 1  | ... | 7.0   |     |     |
| 122 | 1  | 3  | 4.0  | 5  | 2  | 2   | 2  | 5  | 1   | 1  | ... | 2.0   |     |     |
| 123 | 1  | 3  | 10.0 | 4  | 1  | 3   | 2  | 5  | 1   | 1  | ... | 0.0   |     |     |
| 124 | 1  | 2  | 10.0 | 2  | 1  | 3   | 1  | 4  | 2   | 4  | ... | 0.0   |     |     |
| 125 | 1  | 5  | 5.0  | 1  | 1  | 2   | 1  | 4  | 3   | 1  | ... | 2.0   |     |     |
| 126 | 1  | 4  | 3.0  | 3  | 4  | 3   | 1  | 4  | 2   | 1  | ... | 0.0   |     |     |
| 127 | 1  | 3  | 3.0  | 2  | 4  | 3   | 1  | 5  | 2   | 1  | ... | 4.0   |     |     |





|     |                      |   |                  |   |  |   |  |  |  |  |     |   |     |
|-----|----------------------|---|------------------|---|--|---|--|--|--|--|-----|---|-----|
| 172 |                      | 1 | 2                | 0.0                                       | 5  | 6   | 3  | 1  | 5  | 2  | 11  | ...   | 4.0 |
| 173 |                      | 1 | 2                | 0.0                                       | 5  | 6   | 3  | 1  | 5  | 2  | 11  | ...   | 4.0 |
| 174 |                      | 1 | 3                | 2   | 5  | 8   | 4  | 2  | 5  | 3  | 1   | ...   | 4.0 |
| 175 | Gender of respondent | 1 | How old are you? | When did you start your shop online from? | 5 Since How Long You are Shopping Online | 8 How many times you have made an online purchase in the past 1 year? | 7 How do you access the internet while shopping on-line? | 9 What is the screen size of your mobile device? | 10 What is the operating system (OS) of your device? | 11 What browser do you run on your device to access the website? | ... | Longer time to get logged in (promotion sales period) | 4.0 |
| 176 |                      | 1 | 3                | 0.0                                       | 3  | 2   | 3  | 4  | 2  | 2  | ... | ...   | 0.0 |
| 177 |                      | 1 | 3                | 0.0                                       | 3  | 2   | 3  | 4  | 2  | 2  | ... | ...   | 0.0 |
| 178 |                      | 1 | 4                | 0.0                                       | 3  | 1   | 3  | 5  | 1  | 1  | ... | ...   | 0.0 |
| 179 |                      | 1 | 2                | 6.0                                       | 5  | 1   | 3  | 1  | 4  | 2  | 1   | ...   | 0.0 |
| 180 |                      | 1 | 1                | 10.0                                      | 3  | 1   | 2  | 1  | 4  | 2  | 1   | ...   | 0.0 |
| 181 |                      | 1 | 3                | 10.0                                      | 4  | 1   | 3  | 2  | 5  | 1  | 1   | ...   | 0.0 |
| 182 |                      | 1 | 2                | 10.0                                      | 2  | 1   | 3  | 1  | 4  | 2  | 4   | ...   | 0.0 |
| 183 |                      | 1 | 4                | 3.0                                       | 3  | 4   | 3  | 1  | 4  | 2  | 1   | ...   | 0.0 |
| 184 |                      | 0 | 4                | 2.0                                       | 3  | 1   | 3  | 1  | 2  | 3  | 1   | ...   | 1.0 |
| 185 |                      | 0 | 1                | 2.0                                       | 4  | 5   | 3  | 1  | 2  | 3  | 1   | ...   | 1.0 |
| 186 |                      | 0 | 3                | 9.0                                       | 4  | 1   | 3  | 2  | 5  | 1  | 1   | ...   | 8.0 |
| 187 |                      | 0 | 1                | 9.0                                       | 3  | 1   | 3  | 1  | 4  | 2  | 1   | ...   | 7.0 |
| 188 |                      | 0 | 3                | 2.0                                       | 1  | 1   | 3  | 1  | 4  | 3  | 2   | ...   | 9.0 |
| 189 |                      | 0 | 2                | 2.0                                       | 3  | 5   | 3  | 2  | 5  | 1  | 1   | ...   | 8.0 |
| 190 |                      | 0 | 4                | 2.0                                       | 3  | 1   | 3  | 1  | 4  | 3  | 2   | ...   | 9.0 |
| 191 |                      | 0 | 2                | 9.0                                       | 5  | 2   | 3  | 4  | 5  | 2  | 1   | ...   | 2.0 |
| 192 |                      | 0 | 2                | 6.0                                       | 4  | 1   | 3  | 1  | 4  | 3  | 2   | ...   | 9.0 |
| 193 |                      | 0 | 3                | 9.0                                       | 4  | 1   | 3  | 3  | 5  | 1  | 1   | ...   | 0.0 |
| 194 |                      | 0 | 4                | 9.0                                       | 5  | 1   | 3  | 2  | 5  | 1  | 1   | ...   | 3.0 |
| 195 |                      | 0 | 3                | 9.0                                       | 4  | 3   | 3  | 1  | 4  | 1  | 1   | ...   | 0.0 |
| 196 |                      | 0 | 2                | 0.0                                       | 1  | 1   | 3  | 1  | 4  | 2  | 3   | ...   | 1.0 |
| 197 |                      | 0 | 5                | 9.0                                       | 3  | 5   | 3  | 1  | 4  | 2  | 1   | ...   | 0.0 |
| 198 |                      | 0 | 4                | 2.0                                       | 3  | 4   | 3  | 1  | 4  | 2  | 4   | ...   | 0.0 |
| 199 |                      | 1 | 4                | 0.0                                       | 3  | 1   | 3  | 2  | 5  | 1  | 1   | ...   | 0.0 |
| 200 |                      | 1 | 2                | 6.0                                       | 5  | 1   | 3  | 1  | 4  | 2  | 1   | ...   | 0.0 |
| 201 |                      | 1 | 1                | 10.0                                      | 3  | 1   | 2  | 1  | 4  | 2  | 1   | ...   | 0.0 |
| 202 |                      | 1 | 3                | 10.0                                      | 4  | 1   | 3  | 2  | 5  | 1  | 1   | ...   | 0.0 |
| 203 |                      | 1 | 2                | 10.0                                      | 2  | 1   | 3  | 1  | 4  | 2  | 4   | ...   | 0.0 |
| 204 |                      | 1 | 4                | 3.0                                       | 3  | 4   | 3  | 1  | 4  | 2  | 1   | ...   | 0.0 |
| 205 |                      | 0 | 5                | 9.0                                       | 3  | 5   | 3  | 1  | 4  | 2  | 1   | ...   | 0.0 |
| 206 |                      | 0 | 4                | 2.0                                       | 3  | 4   | 3  | 1  | 4  | 2  | 4   | ...   | 0.0 |
| 207 |                      | 0 | 2                | 0.0                                       | 1  | 1   | 3  | 1  | 4  | 2  | 3   | ...   | 1.0 |
| 208 |                      | 1 | 4                | 0.0                                       | 4  | 2   | 3  | 1  | 4  | 2  | 1   | ...   | 6.0 |
| 209 |                      | 1 | 3                | 3.0                                       | 5  | 5   | 2  | 1  | 4  | 2  | 1   | ...   | 6.0 |
| 210 |                      | 1 | 4                | 6.0                                       | 5  | 5   | 3  | 3  | 5  | 1  | 1   | ...   | 0.0 |
| 211 |                      | 1 | 2                | 0.0                                       | 5  | 1   | 3  | 1  | 5  | 2  | 1   | ...   | 4.0 |
| 212 |                      | 1 | 3                | 3.0                                       | 2  | 4   | 3  | 1  | 5  | 2  | 1   | ...   | 4.0 |
| 213 |                      | 1 | 1                | 3.0                                       | 1  | 1   | 2  | 1  | 4  | 1  | 1   | ...   | 0.0 |
| 214 |                      | 0 | 3                | 9.0                                       | 4  | 1   | 3  | 3  | 5  | 1  | 1   | ...   | 0.0 |
| 215 |                      | 0 | 4                | 9.0                                       | 5  | 1   | 3  | 2  | 5  | 1  | 1   | ...   | 3.0 |
| 216 |                      | 0 | 3                | 9.0                                       | 4  | 3   | 3  | 1  | 4  | 1  | 1   | ...   | 0.0 |
| 217 |                      | 1 | 3                | 4.0                                       | 5  | 5   | 3  | 1  | 4  | 3  | 2   | ...   | 9.0 |

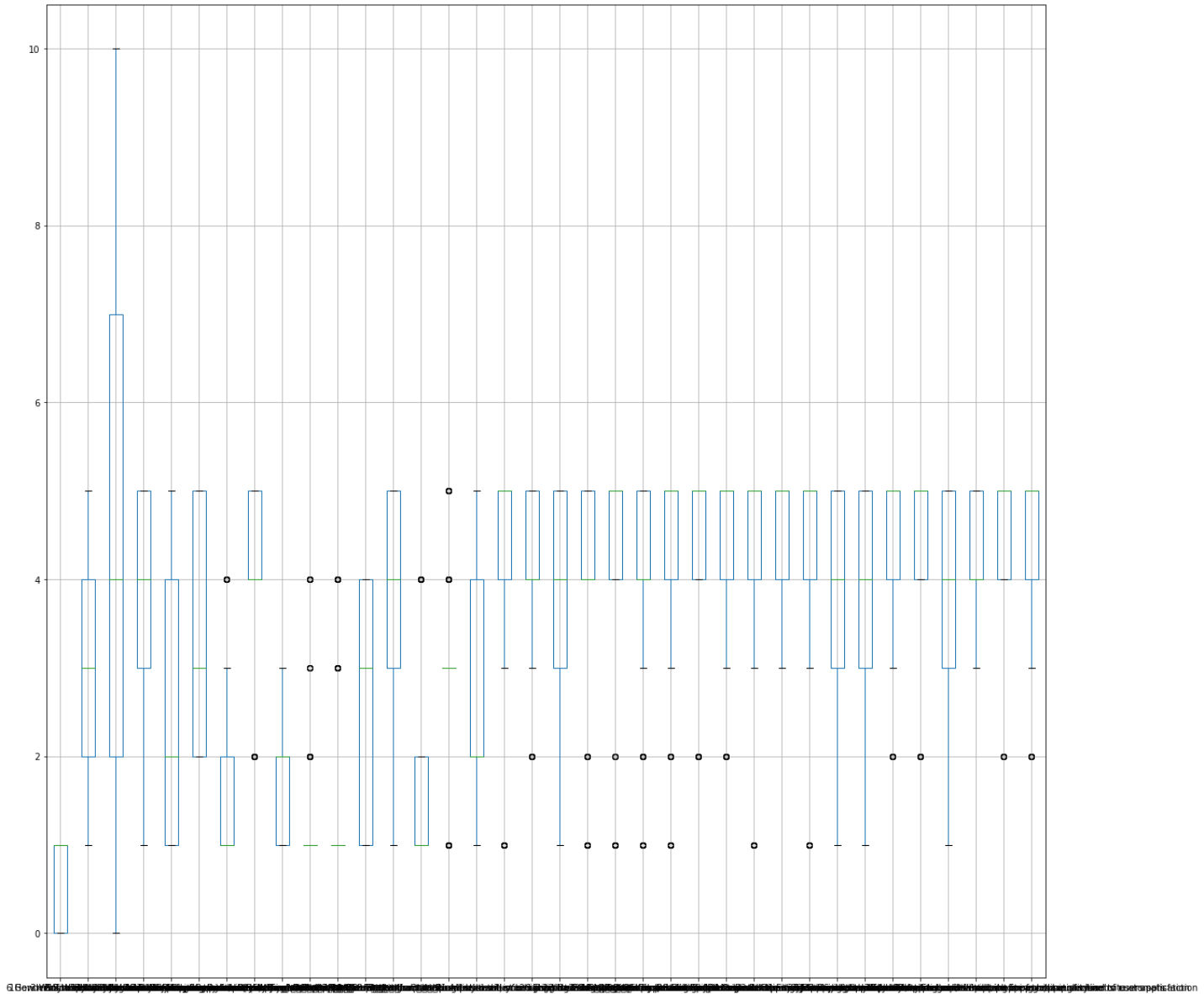
[illegible]

|     |   |   |     |   |   |   |   |   |   |   |    |   |     |     |
|-----|---|---|-----|---|---|---|---|---|---|---|----|---|-----|-----|
| 263 | 0 | 4 | 2.0 | 4 | 6 | How many times  | 3 | 3 | 5 | 1 | 11 | What browser do you run on your device to access the website? | ... | 1.0 |
| 264 | 1 | 2 | 2.0 | 5 | 5 | Since how long you are online?                            | 4 | 3 | 5 | 2 | 12 | What is the operating system (OS) of your device?             | ... | 0.0 |
| 265 | 1 | 1 | 3.0 | 2 | 2 | How often you make an online purchase in the past 1 year? | 4 | 3 | 5 | 2 | 13 | What is the screen size of your mobile device?                | ... | 0.0 |
| 266 | 1 | 1 | 3.0 | 3 | 3 | How often you use the internet while shopping on-line?    | 3 | 2 | 4 | 2 | 14 | What is the device you use to access the website?             | ... | 0.0 |
| 267 | 1 | 1 | 3.0 | 3 | 3 | How often you use the internet while shopping on-line?    | 3 | 2 | 4 | 2 | 15 | What is the device you use to access the website?             | ... | 0.0 |
| 268 | 1 | 4 | 3.0 | 3 | 3 | How often you use the internet while shopping on-line?    | 3 | 2 | 4 | 2 | 16 | What is the device you use to access the website?             | ... | 0.0 |

269 rows x 70 columns

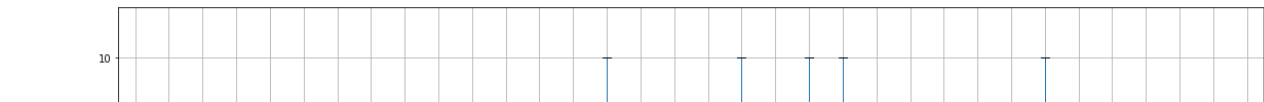
```
In [28]:
df.iloc[:,36].boxplot(figsize=(20,20))
```

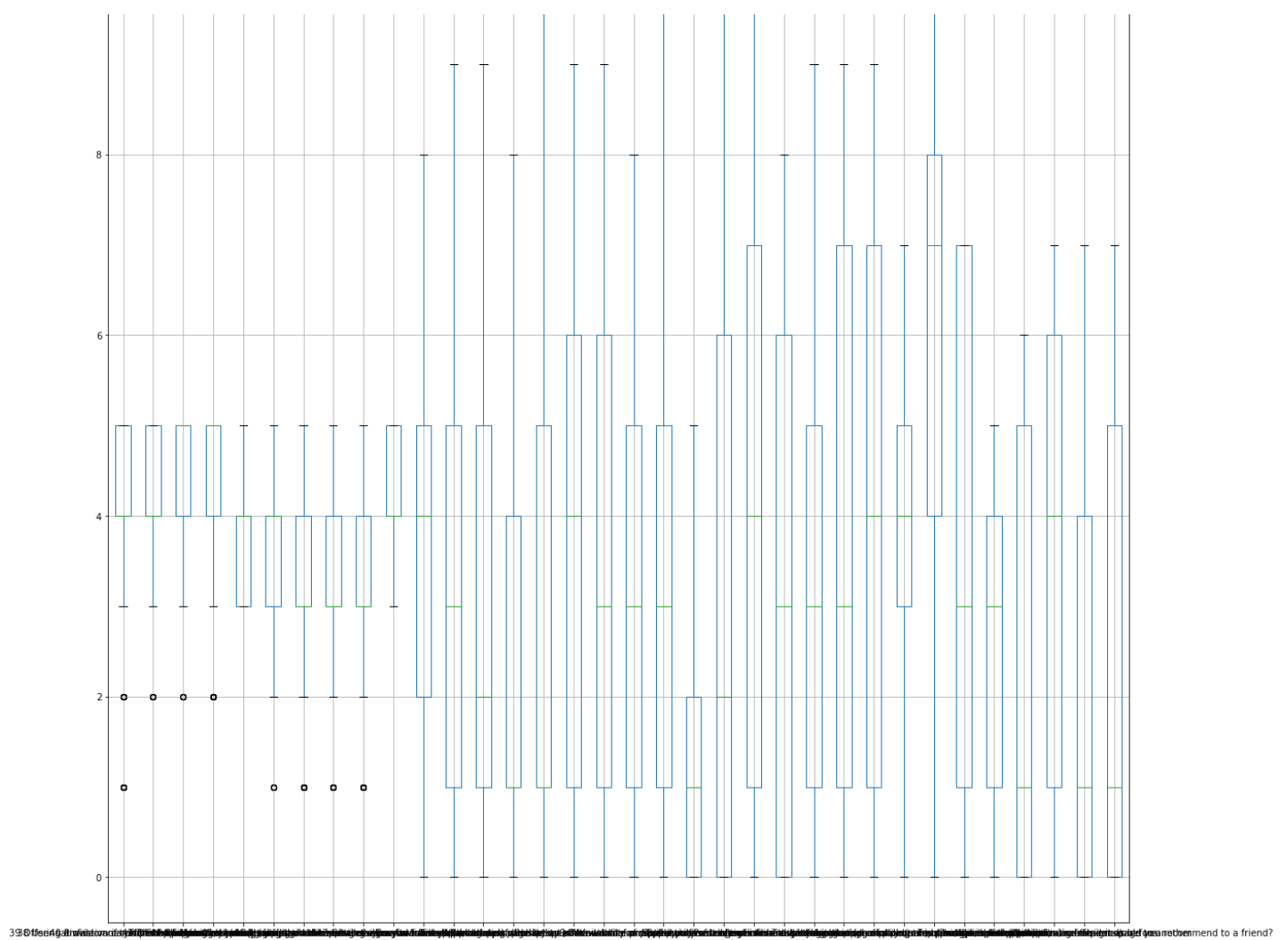
Out[28]:
<AxesSubplot:>



```
In [29]:
df.iloc[:,36:].boxplot(figsize=(20,20))
```

Out[29]:
<AxesSubplot:>





# Removing OUTLIERS

In [30]:

```
# many outliers found so to clear them
from scipy.stats import zscore
```

In [31]:

```
zscore=np.abs(zscore(df))
```

In [32]:

```
dfnew=df[(zscore<3).all(axis=1)]
```

In [33]:

```
dfnew
```

Out[33]:

| 1Gender of respondent | 2 How old are you? | 3 Which city do you shop online from? | 5 Since How Long You are Shopping Online ? | 6 How many times you have made an online purchase in the past 1 year? | 7 How do you access the internet while shopping on-line? | 8 Which device do you use to access the online shopping? | 9 What is the screen size of your mobile device? | 10 What is the operating system (OS) of your device? | 11 What browser do you run on your device to access the website? | Longer time to get logged in (promotion, sales period) |     |     |
|-----------------------|--------------------|---------------------------------------|--|---|--|--|--|--|--|--|-----|-----|
| 1                     | 1                  | 2                                     | 2.0  | 5   | 5  | 2  | 1  | 2  | 3  | 1  | ... | 1.0 |
| 2                     | 1                  | 2                                     | 1.0  | 1   | 5  | 2  | 1  | 1  | 2  | 1  | ... | 7.0 |

|    |                      |                  |                             |                                  |   |  |  |  |   |                                 |                 |  |        |
|----|----------------------|------------------|-----------------------------|----------------------------------|---|--|--|--|---|---------------------------------|-----------------|--|--------|
| 2  | 1                    | 2                | 4.0                         | 4                                | 5   | 5  | 1  | 7  | 2   | 1                               | ...             | 7.0  |        |
| 3  | 0                    | 2                | 6.0                         | 4                                | 6   | How many   | 3  | 1  | 4   | 3                               | 11 What browser | ...  | 9.0    |
| 4  | 1                    | 2                | 2.0                         | 5                                | 8   | Since  | 8  | 7  | 4   | 10 What is the                  | do you run on   | ...  | 5.0    |
| 5  | Gender of respondent | How old are you? | What city do you shop from? | How Long You are Shopping Online | How many times you have made an online purchase in the past 1 year? | How do you access the internet while shopping on-line? | Which device do you use to access the online shopping? | What is the screen size of your mobile device? | What is the operating system (OS) of your device? | What do you access the website? | ...             | Longest time to get logged in (promotion period) | d      |
| 6  | 0                    | 1                | 2.0                         | 5                                | 4   | 2  | 4  | 5  | 2   | 1                               | ...             | 2.0  | an (pr |
| 8  | 1                    | 1                | 2.0                         | 3                                | 1   | 2  | 2  | 5  | 1   | 1                               | ...             | 8.0  |        |
| 9  | 1                    | 3                | 8.0                         | 5                                | 3   | 3  | 2  | 5  | 1   | 1                               | ...             | 3.0  |        |
| 10 | 0                    | 3                | 9.0                         | 5                                | 1   | 2  | 2  | 5  | 1   | 1                               | ...             | 8.0  |        |
| 11 | 1                    | 5                | 5.0                         | 3                                | 1   | 2  | 2  | 5  | 1   | 1                               | ...             | 7.0  |        |
| 14 | 1                    | 2                | 6.0                         | 1                                | 5   | 2  | 1  | 4  | 2   | 1                               | ...             | 7.0  |        |
| 15 | 1                    | 2                | 0.0                         | 3                                | 5   | 3  | 1  | 4  | 3   | 2                               | ...             | 9.0  |        |
| 16 | 0                    | 3                | 9.0                         | 2                                | 3   | 3  | 2  | 5  | 3   | 2                               | ...             | 5.0  |        |
| 17 | 0                    | 4                | 2.0                         | 1                                | 1   | 2  | 2  | 5  | 1   | 1                               | ...             | 6.0  |        |
| 18 | 1                    | 4                | 2.0                         | 2                                | 1   | 2  | 2  | 5  | 1   | 1                               | ...             | 2.0  |        |
| 19 | 1                    | 2                | 10.0                        | 2                                | 2   | 2  | 1  | 4  | 3   | 2                               | ...             | 9.0  |        |
| 20 | 1                    | 2                | 9.0                         | 2                                | 5   | 2  | 1  | 2  | 3   | 2                               | ...             | 5.0  |        |
| 22 | 0                    | 4                | 4.0                         | 5                                | 4   | 3  | 4  | 4  | 2   | 1                               | ...             | 0.0  |        |
| 23 | 1                    | 4                | 4.0                         | 5                                | 5   | 5  | 3  | 5  | 1   | 1                               | ...             | 8.0  |        |
| 24 | 1                    | 2                | 7.0                         | 4                                | 5   | 5  | 1  | 4  | 1   | 1                               | ...             | 3.0  |        |
| 25 | 1                    | 2                | 0.0                         | 3                                | 1   | 5  | 2  | 5  | 1   | 1                               | ...             | 8.0  |        |
| 26 | 0                    | 2                | 3.0                         | 1                                | 2   | 5  | 2  | 5  | 1   | 1                               | ...             | 7.0  |        |
| 28 | 1                    | 4                | 4.0                         | 5                                | 4   | 5  | 2  | 5  | 1   | 1                               | ...             | 7.0  |        |
| 29 | 1                    | 4                | 6.0                         | 3                                | 1   | 5  | 2  | 5  | 3   | 2                               | ...             | 9.0  |        |
| 30 | 1                    | 1                | 0.0                         | 5                                | 1   | 5  | 1  | 2  | 3   | 2                               | ...             | 5.0  |        |
| 32 | 0                    | 3                | 2.0                         | 5                                | 3   | 5  | 1  | 2  | 3   | 1                               | ...             | 1.0  |        |
| 33 | 1                    | 4                | 4.0                         | 5                                | 1   | 5  | 1  | 4  | 2   | 1                               | ...             | 7.0  |        |
| 34 | 1                    | 5                | 6.0                         | 4                                | 1   | 5  | 1  | 4  | 3   | 2                               | ...             | 9.0  |        |
| 35 | 1                    | 2                | 0.0                         | 3                                | 2   | 5  | 1  | 2  | 3   | 2                               | ...             | 5.0  |        |
| 36 | 0                    | 3                | 9.0                         | 1                                | 1   | 5  | 1  | 4  | 2   | 1                               | ...             | 6.0  |        |
| 37 | 0                    | 4                | 2.0                         | 5                                | 2   | 5  | 4  | 5  | 2   | 1                               | ...             | 2.0  |        |
| 39 | 1                    | 2                | 6.0                         | 3                                | 4   | 5  | 1  | 4  | 2   | 1                               | ...             | 0.0  |        |
| 40 | 1                    | 2                | 0.0                         | 5                                | 4   | 5  | 2  | 5  | 1   | 1                               | ...             | 8.0  |        |
| 41 | 0                    | 3                | 9.0                         | 4                                | 5   | 5  | 2  | 5  | 1   | 1                               | ...             | 3.0  |        |
| 42 | 0                    | 2                | 2.0                         | 3                                | 5   | 5  | 2  | 5  | 1   | 1                               | ...             | 8.0  |        |
| 43 | 1                    | 2                | 4.0                         | 1                                | 1   | 5  | 2  | 5  | 1   | 1                               | ...             | 7.0  |        |
| 45 | 1                    | 4                | 0.0                         | 5                                | 5   | 5  | 1  | 2  | 3   | 1                               | ...             | 1.0  |        |
| 46 | 0                    | 4                | 9.0                         | 5                                | 4   | 5  | 1  | 4  | 2   | 1                               | ...             | 7.0  |        |
| 47 | 0                    | 1                | 2.0                         | 5                                | 1   | 5  | 1  | 4  | 3   | 2                               | ...             | 9.0  |        |
| 48 | 1                    | 3                | 4.0                         | 3                                | 1   | 5  | 1  | 4  | 3   | 2                               | ...             | 9.0  |        |
| 49 | 1                    | 3                | 6.0                         | 5                                | 5   | 5  | 1  | 2  | 3   | 2                               | ...             | 5.0  |        |
| 50 | 1                    | 4                | 0.0                         | 4                                | 4   | 5  | 1  | 4  | 2   | 1                               | ...             | 6.0  |        |
| 51 | 0                    | 5                | 9.0                         | 3                                | 4   | 5  | 4  | 5  | 2   | 1                               | ...             | 2.0  |        |
| 54 | 1                    | 2                | 7.0                         | 5                                | 1   | 5  | 1  | 4  | 2   | 1                               | ...             | 0.0  |        |
| 55 | 1                    | 2                | 0.0                         | 4                                | 2   | 5  | 2  | 5  | 1   | 1                               | ...             | 8.0  |        |
| 56 | 0                    | 2                | 9.0                         | 2                                | 5   | 5  | 2  | 5  | 1   | 1                               | ...             | 2.0  |        |

|     |                      |                  |                                     |                               |   |   |   |   |   |   |  |   |   |     |   |     |     |   |     |          |
|-----|----------------------|------------------|-------------------------------------|-------------------------------|---|---|---|---|---|---|--|---|---|-----|---|-----|-----|---|-----|----------|
| 56  | 0                    | 2                | 2.0                                 | 1                             | 6 | How many times you have made an online purchase in the past 1 year? | 5 | 2   | 5 | 1 | 11   | What browser do you run on your device to access the website? | ...   | 8.0 |   |     |     |   |     |          |
| 57  | 0                    | 2                | 2.0                                 | 1                             | 6 | How many times you have made an online purchase in the past 1 year? | 5 | 2   | 5 | 1 | 11   | What browser do you run on your device to access the website? | ...   | 8.0 |   |     |     |   |     |          |
| 58  | 1                    | 3                | 9.0                                 | 5                             | 5 | Since How Long You are Shopping Online?                             | 8 | you access the device you use to access the online shopping?        | 2 | 9 | What is the screen size of your mobile device? | 10  | What is the operating system (OS) of your device? | 11  | What do you run on your device to access the website? | ... | 7.0 | Longer time to get logged in (promotion period) | 7.0 | d an (pr |
| 60  | Gender of respondent | How old are you? | Which city do you shop online from? | Long You are Shopping Online? | 5 | How many times you have made an online purchase in the past 1 year? | 8 | How do you access the device you use to access the online shopping? | 2 | 9 | What is the screen size of your mobile device? | 10  | What is the operating system (OS) of your device? | 11  | What do you run on your device to access the website? | ... | 7.0 | Longer time to get logged in (promotion period) | 7.0 | d an (pr |
| 61  | 0                    | 3                | 4.0                                 | 5                             | 5 | Since How Long You are Shopping Online?                             | 8 | you access the device you use to access the online shopping?        | 2 | 9 | What is the screen size of your mobile device? | 10  | What is the operating system (OS) of your device? | 11  | What do you run on your device to access the website? | ... | 7.0 | Longer time to get logged in (promotion period) | 7.0 | d an (pr |
| 62  | 0                    | 3                | 4.0                                 | 5                             | 5 | Since How Long You are Shopping Online?                             | 8 | you access the device you use to access the online shopping?        | 2 | 9 | What is the screen size of your mobile device? | 10  | What is the operating system (OS) of your device? | 11  | What do you run on your device to access the website? | ... | 7.0 | Longer time to get logged in (promotion period) | 7.0 | d an (pr |
| 63  | 1                    | 3                | 4.0                                 | 5                             | 5 | Since How Long You are Shopping Online?                             | 8 | you access the device you use to access the online shopping?        | 2 | 9 | What is the screen size of your mobile device? | 10  | What is the operating system (OS) of your device? | 11  | What do you run on your device to access the website? | ... | 7.0 | Longer time to get logged in (promotion period) | 7.0 | d an (pr |
| 67  | 0                    | 4                | 2.0                                 | 3                             | 1 | 5   | 1 | 2   | 3 | 1 | ...  | 1.0   |   |     |   |     |     |   |     |          |
| 68  | 1                    | 4                | 4.0                                 | 1                             | 5 | 5   | 1 | 4   | 2 | 1 | ...  | 7.0   |   |     |   |     |     |   |     |          |
| 69  | 1                    | 2                | 7.0                                 | 5                             | 4 | 5   | 1 | 4   | 3 | 2 | ...  | 9.0   |   |     |   |     |     |   |     |          |
| 71  | 0                    | 3                | 9.0                                 | 4                             | 1 | 5   | 2 | 5   | 1 | 1 | ...  | 8.0   |   |     |   |     |     |   |     |          |
| 72  | 0                    | 2                | 2.0                                 | 3                             | 5 | 5   | 2 | 5   | 1 | 1 | ...  | 8.0   |   |     |   |     |     |   |     |          |
| 73  | 1                    | 2                | 4.0                                 | 1                             | 4 | 5   | 2 | 5   | 1 | 1 | ...  | 7.0   |   |     |   |     |     |   |     |          |
| 75  | 1                    | 4                | 0.0                                 | 3                             | 1 | 5   | 2 | 5   | 1 | 1 | ...  | 0.0   |   |     |   |     |     |   |     |          |
| 76  | 0                    | 4                | 9.0                                 | 5                             | 1 | 5   | 2 | 5   | 1 | 1 | ...  | 3.0   |   |     |   |     |     |   |     |          |
| 77  | 0                    | 1                | 2.0                                 | 4                             | 5 | 5   | 1 | 2   | 3 | 1 | ...  | 1.0   |   |     |   |     |     |   |     |          |
| 78  | 1                    | 3                | 4.0                                 | 3                             | 4 | 5   | 1 | 4   | 2 | 1 | ...  | 7.0   |   |     |   |     |     |   |     |          |
| 79  | 1                    | 3                | 6.0                                 | 1                             | 4 | 5   | 1 | 2   | 3 | 2 | ...  | 5.0   |   |     |   |     |     |   |     |          |
| 80  | 1                    | 4                | 0.0                                 | 4                             | 2 | 5   | 1 | 4   | 2 | 1 | ...  | 6.0   |   |     |   |     |     |   |     |          |
| 81  | 0                    | 5                | 9.0                                 | 3                             | 5 | 5   | 1 | 4   | 2 | 1 | ...  | 0.0   |   |     |   |     |     |   |     |          |
| 83  | 1                    | 4                | 4.0                                 | 1                             | 1 | 5   | 1 | 4   | 3 | 1 | ...  | 2.0   |   |     |   |     |     |   |     |          |
| 84  | 1                    | 2                | 6.0                                 | 5                             | 1 | 5   | 1 | 4   | 2 | 1 | ...  | 0.0   |   |     |   |     |     |   |     |          |
| 85  | 1                    | 2                | 0.0                                 | 5                             | 1 | 5   | 1 | 5   | 2 | 1 | ...  | 4.0   |   |     |   |     |     |   |     |          |
| 86  | 0                    | 3                | 9.0                                 | 4                             | 3 | 5   | 1 | 4   | 1 | 1 | ...  | 0.0   |   |     |   |     |     |   |     |          |
| 87  | 0                    | 4                | 2.0                                 | 3                             | 1 | 5   | 1 | 4   | 3 | 2 | ...  | 9.0   |   |     |   |     |     |   |     |          |
| 89  | 0                    | 2                | 9.0                                 | 5                             | 2 | 5   | 4 | 5   | 2 | 1 | ...  | 2.0   |   |     |   |     |     |   |     |          |
| 90  | 1                    | 3                | 2.0                                 | 1                             | 1 | 5   | 2 | 5   | 1 | 1 | ...  | 8.0   |   |     |   |     |     |   |     |          |
| 91  | 1                    | 2                | 4.0                                 | 5                             | 4 | 5   | 2 | 5   | 1 | 1 | ...  | 8.0   |   |     |   |     |     |   |     |          |
| 92  | 1                    | 2                | 6.0                                 | 5                             | 4 | 5   | 2 | 5   | 1 | 1 | ...  | 8.0   |   |     |   |     |     |   |     |          |
| 93  | 1                    | 2                | 2.0                                 | 5                             | 5 | 2   | 2 | 5   | 1 | 1 | ...  | 8.0   |   |     |   |     |     |   |     |          |
| 94  | 1                    | 2                | 4.0                                 | 4                             | 5 | 3   | 1 | 4   | 2 | 1 | ...  | 7.0   |   |     |   |     |     |   |     |          |
| 95  | 1                    | 2                | 0.0                                 | 3                             | 2 | 2   | 1 | 2   | 3 | 2 | ...  | 5.0   |   |     |   |     |     |   |     |          |
| 96  | 1                    | 3                | 3.0                                 | 5                             | 5 | 2   | 1 | 4   | 2 | 1 | ...  | 6.0   |   |     |   |     |     |   |     |          |
| 97  | 1                    | 1                | 10.0                                | 3                             | 1 | 2   | 1 | 4   | 2 | 1 | ...  | 0.0   |   |     |   |     |     |   |     |          |
| 98  | 1                    | 3                | 2.0                                 | 1                             | 1 | 2   | 2 | 5   | 1 | 1 | ...  | 8.0   |   |     |   |     |     |   |     |          |
| 99  | 1                    | 4                | 9.0                                 | 5                             | 1 | 2   | 2 | 5   | 1 | 1 | ...  | 8.0   |   |     |   |     |     |   |     |          |
| 100 | 1                    | 5                | 5.0                                 | 3                             | 1 | 2   | 2 | 5   | 1 | 1 | ...  | 7.0   |   |     |   |     |     |   |     |          |
| 102 | 1                    | 3                | 10.0                                | 4                             | 1 | 3   | 2 | 5   | 1 | 1 | ...  | 0.0   |   |     |   |     |     |   |     |          |
| 104 | 1                    | 5                | 5.0                                 | 1                             | 1 | 2   | 1 | 4   | 3 | 1 | ...  | 2.0   |   |     |   |     |     |   |     |          |
| 105 | 1                    | 4                | 3.0                                 | 3                             | 4 | 3   | 1 | 4   | 2 | 1 | ...  | 0.0   |   |     |   |     |     |   |     |          |
| 106 | 1                    | 3                | 3.0                                 | 2                             | 4 | 3   | 1 | 5   | 2 | 1 | ...  | 4.0   |   |     |   |     |     |   |     |          |
| 107 | 1                    | 1                | 3.0                                 | 1                             | 1 | 2   | 1 | 4   | 1 | 1 | ...  | 0.0   |   |     |   |     |     |   |     |          |
| 108 | 0                    | 2                | 6.0                                 | 4                             | 1 | 3   | 1 | 4   | 3 | 2 | ...  | 9.0   |   |     |   |     |     |   |     |          |
| 109 | 0                    | 4                | 2.0                                 | 5                             | 4 | 2   | 4 | 5   | 2 | 1 | ...  | 2.0   |   |     |   |     |     |   |     |          |
| 111 | 0                    | 3                | 8.0                                 | 5                             | 3 | 3   | 2 | 5   | 1 | 1 | ...  | 3.0   |   |     |   |     |     |   |     |          |
| 114 | 1                    | 2                | 2.0                                 | 5                             | 5 | 2   | 1 | 2   | 2 | 1 | ...  | 1.0   |   |     |   |     |     |   |     |          |

|     |                      |                  |                             |  |   |  |  |  |  |  |     |     |
|-----|----------------------|------------------|-----------------------------|--|---|--|--|--|--|--|-----|-----|
| 114 | 1                    | 2                | 2.0                         | 3  | 3   | 1  | 2  | 1  | 3  | 1  | ... | 1.0 |
| 115 | 1                    | 2                | 4.0<br>3                    | 4  | 6 How many times you have made an online purchase in the past 1 year? | 3  | 1  | 4  | 2  | 11 What browser do you run on your device to access the website? | 1   | 7.0 |
| 116 | 1                    | 2                | 2.0                         | 5 Since How Long You are Shopping Online ? | 8   | 7 How do you access the internet while shopping on-line? | 8 Which device do you use to access the online shopping? | 9 What is the screen size of your mobile device? | 10 What is the operating system (OS) of your device? | 2  | ... | 5.0 |
| 117 | Gender of respondent | How old are you? | What city do you shop from? | 10.0                                       | 9.0   | 10.0   | 1  | 2  | 1  | 2  | ... | 6.0 |
| 118 | 1                    | 1                | 10.0                        | 3  | 1   | 2  | 1  | 4  | 2  | 1  | ... | 0.0 |
| 119 | 1                    | 3                | 9.0                         | 5  | 1   | 2  | 2  | 5  | 1  | 1  | ... | 8.0 |
| 120 | 1                    | 4                | 5.0                         | 3  | 1   | 2  | 2  | 5  | 1  | 1  | ... | 7.0 |
| 121 | 1                    | 5                | 10.0                        | 4  | 1   | 3  | 2  | 5  | 1  | 1  | ... | 0.0 |
| 123 | 1                    | 5                | 5.0                         | 1  | 1   | 2  | 1  | 4  | 3  | 1  | ... | 2.0 |
| 125 | 1                    | 4                | 3.0                         | 3  | 4   | 3  | 1  | 4  | 2  | 1  | ... | 0.0 |
| 126 | 1                    | 3                | 3.0                         | 2  | 4   | 3  | 1  | 5  | 2  | 1  | ... | 4.0 |
| 127 | 1                    | 1                | 3.0                         | 1  | 1   | 2  | 1  | 4  | 1  | 1  | ... | 0.0 |
| 128 | 0                    | 2                | 6.0                         | 4  | 1   | 3  | 1  | 4  | 3  | 2  | ... | 9.0 |
| 129 | 0                    | 4                | 2.0                         | 5  | 4   | 2  | 4  | 5  | 2  | 1  | ... | 2.0 |
| 130 | 0                    | 3                | 8.0                         | 5  | 3   | 3  | 2  | 5  | 1  | 1  | ... | 3.0 |
| 132 | 1                    | 1                | 10.0                        | 3  | 1   | 2  | 1  | 4  | 2  | 1  | ... | 0.0 |
| 135 | 1                    | 3                | 9.0                         | 5  | 5   | 2  | 1  | 4  | 2  | 1  | ... | 6.0 |
| 136 | 0                    | 3                | 8.0                         | 5  | 3   | 3  | 2  | 5  | 1  | 1  | ... | 3.0 |
| 137 | 1                    | 2                | 4.0                         | 4  | 5   | 3  | 1  | 4  | 2  | 1  | ... | 7.0 |
| 138 | 0                    | 2                | 6.0                         | 4  | 1   | 3  | 1  | 4  | 3  | 2  | ... | 9.0 |
| 139 | 0                    | 4                | 2.0                         | 5  | 4   | 2  | 4  | 5  | 2  | 1  | ... | 2.0 |
| 140 | 1                    | 4                | 9.0                         | 5  | 1   | 2  | 2  | 5  | 1  | 1  | ... | 8.0 |
| 141 | 1                    | 2                | 0.0                         | 3  | 2   | 2  | 1  | 2  | 3  | 2  | ... | 5.0 |
| 142 | 1                    | 3                | 2.0                         | 1  | 1   | 2  | 2  | 5  | 1  | 1  | ... | 8.0 |
| 144 | 1                    | 2                | 2.0                         | 5  | 5   | 2  | 1  | 2  | 3  | 1  | ... | 1.0 |
| 145 | 1                    | 5                | 5.0                         | 3  | 1   | 2  | 2  | 5  | 1  | 1  | ... | 7.0 |
| 146 | 1                    | 3                | 4.0                         | 5  | 2   | 5  | 2  | 5  | 1  | 1  | ... | 7.0 |
| 148 | 1                    | 4                | 0.0                         | 4  | 4   | 3  | 1  | 2  | 3  | 1  | ... | 1.0 |
| 149 | 1                    | 2                | 4.0                         | 1  | 4   | 3  | 2  | 5  | 1  | 1  | ... | 7.0 |
| 150 | 1                    | 5                | 5.0                         | 3  | 1   | 2  | 2  | 5  | 1  | 1  | ... | 7.0 |
| 152 | 1                    | 4                | 4.0                         | 1  | 1   | 3  | 1  | 4  | 3  | 1  | ... | 2.0 |
| 154 | 1                    | 5                | 5.0                         | 1  | 1   | 2  | 1  | 4  | 3  | 1  | ... | 2.0 |
| 155 | 1                    | 3                | 6.0                         | 1  | 4   | 3  | 1  | 2  | 3  | 2  | ... | 5.0 |
| 159 | 1                    | 3                | 2.0                         | 1  | 1   | 3  | 2  | 5  | 1  | 1  | ... | 8.0 |
| 160 | 1                    | 2                | 6.0                         | 5  | 4   | 3  | 2  | 5  | 1  | 1  | ... | 8.0 |
| 161 | 1                    | 2                | 0.0                         | 3  | 2   | 2  | 1  | 2  | 3  | 2  | ... | 5.0 |
| 162 | 1                    | 3                | 2.0                         | 1  | 1   | 2  | 2  | 5  | 1  | 1  | ... | 8.0 |
| 163 | 1                    | 3                | 4.0                         | 5  | 5   | 3  | 1  | 4  | 3  | 2  | ... | 9.0 |
| 164 | 1                    | 4                | 4.0                         | 1  | 5   | 3  | 1  | 4  | 2  | 1  | ... | 7.0 |
| 165 | 1                    | 2                | 7.0                         | 5  | 4   | 3  | 1  | 4  | 3  | 2  | ... | 9.0 |
| 166 | 1                    | 3                | 4.0                         | 3  | 4   | 3  | 1  | 4  | 2  | 1  | ... | 7.0 |
| 167 | 1                    | 2                | 4.0                         | 5  | 4   | 3  | 2  | 5  | 1  | 1  | ... | 8.0 |
| 168 | 1                    | 2                | 2.0                         | 5  | 5   | 2  | 2  | 5  | 1  | 1  | ... | 8.0 |
| 169 | 1                    | 2                | 4.0                         | 4  | 5   | 3  | 1  | 4  | 2  | 1  | ... | 7.0 |
| 170 | 1                    | 4                | 9.0                         | 5  | 1   | 2  | 2  | 5  | 1  | 1  | ... | 8.0 |
| 171 | 1                    | 4                | 9.0                         | 5  | 1   | 2  | 2  | 5  | 1  | 1  | ... | 8.0 |

|     |                      |                  |      |   |   |  |  |  |  |  |   |     |        |  |
|-----|----------------------|------------------|------|---|---|--|--|--|--|--|---|-----|--------|--|
| 171 | 1                    | 4                | 9.0  | 5   | 1   | 2  | 2  | 5  | 1  | ...  | 0.0   |     |        |  |
| 173 | 1                    | 2                | 0.0  | 5   | 6 How many times you have made an online purchase in the past 1 year? | 3  | 1  | 5  | 2  | 11 What browser do you run on your device to access the website? | ...   | 4.0 |        |  |
| 174 | 1                    | 3                | 2.0  | 5 Since How Long You are Shopping Online? | 4   | 7 How do you access the internet while shopping on-line? | 8 Which device do you use to access the online shopping? | 9 What is the screen size of your mobile device? | 10 What is the operating system (OS) of your device? | ...  | Longer time to get logged in (promotion period) | 6.0 |        |  |
| 175 | Gender of respondent | How old are you? | 3.0  | 4   | 2   | 3  | 2  | 4  | 3  | 1  | ...   | 0.0 | d      |  |
| 176 |                      | 1                | 0.0  | 4   | 2   | 3  | 1  | 4  | 2  | ...  | ...   | 5.0 | an (pr |  |
| 177 |                      | 1                | 3    | 0.0                                       | 3   | 1  | 3  | 2  | 5  | 1  | ...   | ... | 0.0    |  |
| 178 |                      | 1                | 4    | 0.0                                       | 3   | 1  | 3  | 2  | 5  | 1  | ...   | ... | 0.0    |  |
| 179 | 1                    | 2                | 6.0  | 5   | 1   | 3  | 1  | 4  | 2  | 1  | ...   | 0.0 |        |  |
| 180 | 1                    | 1                | 10.0 | 3   | 1   | 2  | 1  | 4  | 2  | 1  | ...   | 0.0 |        |  |
| 181 | 1                    | 3                | 10.0 | 4   | 1   | 3  | 2  | 5  | 1  | 1  | ...   | 0.0 |        |  |
| 183 | 1                    | 4                | 3.0  | 3   | 4   | 3  | 1  | 4  | 2  | 1  | ...   | 0.0 |        |  |
| 184 | 0                    | 4                | 2.0  | 3   | 1   | 3  | 1  | 2  | 3  | 1  | ...   | 1.0 |        |  |
| 185 | 0                    | 1                | 2.0  | 4   | 5   | 3  | 1  | 2  | 3  | 1  | ...   | 1.0 |        |  |
| 186 | 0                    | 3                | 9.0  | 4   | 1   | 3  | 2  | 5  | 1  | 1  | ...   | 8.0 |        |  |
| 187 | 0                    | 1                | 9.0  | 3   | 1   | 3  | 1  | 4  | 2  | 1  | ...   | 7.0 |        |  |
| 188 | 0                    | 3                | 2.0  | 1   | 1   | 3  | 1  | 4  | 3  | 2  | ...   | 9.0 |        |  |
| 189 | 0                    | 2                | 2.0  | 3   | 5   | 3  | 2  | 5  | 1  | 1  | ...   | 8.0 |        |  |
| 190 | 0                    | 4                | 2.0  | 3   | 1   | 3  | 1  | 4  | 3  | 2  | ...   | 9.0 |        |  |
| 191 | 0                    | 2                | 9.0  | 5   | 2   | 3  | 4  | 5  | 2  | 1  | ...   | 2.0 |        |  |
| 192 | 0                    | 2                | 6.0  | 4   | 1   | 3  | 1  | 4  | 3  | 2  | ...   | 9.0 |        |  |
| 194 | 0                    | 4                | 9.0  | 5   | 1   | 3  | 2  | 5  | 1  | 1  | ...   | 3.0 |        |  |
| 195 | 0                    | 3                | 9.0  | 4   | 3   | 3  | 1  | 4  | 1  | 1  | ...   | 0.0 |        |  |
| 197 | 0                    | 5                | 9.0  | 3   | 5   | 3  | 1  | 4  | 2  | 1  | ...   | 0.0 |        |  |
| 199 | 1                    | 4                | 0.0  | 3   | 1   | 3  | 2  | 5  | 1  | 1  | ...   | 0.0 |        |  |
| 200 | 1                    | 2                | 6.0  | 5   | 1   | 3  | 1  | 4  | 2  | 1  | ...   | 0.0 |        |  |
| 201 | 1                    | 1                | 10.0 | 3   | 1   | 2  | 1  | 4  | 2  | 1  | ...   | 0.0 |        |  |
| 202 | 1                    | 3                | 10.0 | 4   | 1   | 3  | 2  | 5  | 1  | 1  | ...   | 0.0 |        |  |
| 204 | 1                    | 4                | 3.0  | 3   | 4   | 3  | 1  | 4  | 2  | 1  | ...   | 0.0 |        |  |
| 205 | 0                    | 5                | 9.0  | 3   | 5   | 3  | 1  | 4  | 2  | 1  | ...   | 0.0 |        |  |
| 208 | 1                    | 4                | 0.0  | 4   | 2   | 3  | 1  | 4  | 2  | 1  | ...   | 6.0 |        |  |
| 209 | 1                    | 3                | 3.0  | 5   | 5   | 2  | 1  | 4  | 2  | 1  | ...   | 6.0 |        |  |
| 211 | 1                    | 2                | 0.0  | 5   | 1   | 3  | 1  | 5  | 2  | 1  | ...   | 4.0 |        |  |
| 212 | 1                    | 3                | 3.0  | 2   | 4   | 3  | 1  | 5  | 2  | 1  | ...   | 4.0 |        |  |
| 213 | 1                    | 1                | 3.0  | 1   | 1   | 2  | 1  | 4  | 1  | 1  | ...   | 0.0 |        |  |
| 215 | 0                    | 4                | 9.0  | 5   | 1   | 3  | 2  | 5  | 1  | 1  | ...   | 3.0 |        |  |
| 216 | 0                    | 3                | 9.0  | 4   | 3   | 3  | 1  | 4  | 1  | 1  | ...   | 0.0 |        |  |
| 217 | 1                    | 3                | 4.0  | 5   | 5   | 3  | 1  | 4  | 3  | 2  | ...   | 9.0 |        |  |
| 218 | 1                    | 4                | 4.0  | 1   | 5   | 3  | 1  | 4  | 2  | 1  | ...   | 7.0 |        |  |
| 219 | 1                    | 2                | 7.0  | 5   | 4   | 3  | 1  | 4  | 3  | 2  | ...   | 9.0 |        |  |
| 220 | 1                    | 3                | 4.0  | 3   | 4   | 3  | 1  | 4  | 2  | 1  | ...   | 7.0 |        |  |
| 221 | 1                    | 2                | 4.0  | 5   | 4   | 3  | 2  | 5  | 1  | 1  | ...   | 8.0 |        |  |
| 222 | 1                    | 2                | 2.0  | 5   | 5   | 2  | 2  | 5  | 1  | 1  | ...   | 8.0 |        |  |
| 223 | 1                    | 2                | 4.0  | 4   | 5   | 3  | 1  | 4  | 2  | 1  | ...   | 7.0 |        |  |
| 224 | 1                    | 4                | 9.0  | 5   | 1   | 2  | 2  | 5  | 1  | 1  | ...   | 8.0 |        |  |
| 225 | 0                    | 1                | 9.0  | 3   | 1   | 3  | 1  | 4  | 2  | 1  | ...   | 7.0 |        |  |
| 226 | 0                    | 2                | 2.0  | 1   | 1   | 2  | 1  | 4  | 2  | 2  | ...   | 0.0 |        |  |





```
data_loss=(269-215)/269
data_loss*100
```

20.074349442379184

## In [37]:

Out[37]:

| 1Gender of respondent | 2 How old are you? | 3 Which city do you shop online from? | 4 Since How Long You are Shopping Online ? | 5 How many times you have made an online purchase in the past 1 year? | 6 How do you access the internet while shopping on-line? | 7 Which device do you use to access the online shopping? | 8 What is the screen size of your mobile device? | 9 What is the operating system (OS) of your device? | 10 What browser do you run on your device to access the website? | 11 Presence of online assistance through multi-channel | 12 tim k (pro |
|-----------------------|--------------------|---------------------------------------|--|---|--|--|--|---|--|--|---------------|
| 1                     | 1                  | 2                                     | 2.0  | 5   | 5  | 2  | 1  | 2   | 3  | 1 ...  | 2.0           |
| 2                     | 1                  | 2                                     | 4.0  | 4   | 5  | 3  | 1  | 4   | 2  | 1 ...  | 8.0           |
| 3                     | 0                  | 2                                     | 6.0  | 4   | 1  | 3  | 1  | 4   | 3  | 2 ...  | 3.0           |
| 4                     | 1                  | 2                                     | 0.0  | 3   | 2  | 2  | 1  | 2   | 3  | 2 ...  | 5.0           |
| 5                     | 1                  | 3                                     | 9.0  | 5   | 5  | 2  | 1  | 4   | 2  | 1 ...  | 4.0           |
| 6                     | 0                  | 4                                     | 2.0  | 5   | 4  | 2  | 4  | 5   | 2  | 1 ...  | 3.0           |
| 8                     | 1                  | 1                                     | 10.0                                       | 3   | 1  | 2  | 1  | 4   | 2  | 1 ...  | 3.0           |
| 9                     | 1                  | 3                                     | 2.0  | 1   | 1  | 2  | 2  | 5   | 1  | 1 ...  | 1.0           |
| 10                    | 0                  | 3                                     | 8.0  | 5   | 3  | 3  | 2  | 5   | 1  | 1 ...  | 0.0           |
| 11                    | 1                  | 4                                     | 9.0  | 5   | 1  | 2  | 2  | 5   | 1  | 1 ...  | 6.0           |
| 12                    | 1                  | 5                                     | 5.0  | 3   | 1  | 2  | 2  | 5   | 1  | 1 ...  | 1.0           |
| 14                    | 1                  | 2                                     | 6.0  | 1   | 5  | 2  | 1  | 4   | 2  | 1 ...  | 8.0           |
| 15                    | 1                  | 2                                     | 0.0  | 3   | 5  | 3  | 1  | 4   | 3  | 2 ...  | 3.0           |
| 16                    | 0                  | 3                                     | 9.0  | 2   | 3  | 3  | 2  | 5   | 3  | 2 ...  | 5.0           |
| 17                    | 0                  | 4                                     | 2.0  | 1   | 1  | 2  | 2  | 5   | 1  | 1 ...  | 4.0           |
| 18                    | 1                  | 4                                     | 2.0  | 2   | 1  | 2  | 2  | 5   | 1  | 1 ...  | 3.0           |
| 19                    | 1                  | 2                                     | 10.0                                       | 2   | 2  | 2  | 1  | 4   | 3  | 2 ...  | 3.0           |
| 20                    | 1                  | 2                                     | 9.0  | 2   | 5  | 2  | 1  | 2   | 3  | 2 ...  | 5.0           |
| 22                    | 0                  | 4                                     | 4.0  | 5   | 4  | 3  | 4  | 4   | 2  | 1 ...  | 3.0           |
| 23                    | 1                  | 4                                     | 4.0  | 5   | 5  | 5  | 3  | 5   | 1  | 1 ...  | 1.0           |
| 24                    | 1                  | 2                                     | 7.0  | 4   | 5  | 5  | 1  | 4   | 1  | 1 ...  | 0.0           |
| 25                    | 1                  | 2                                     | 0.0  | 3   | 1  | 5  | 2  | 5   | 1  | 1 ...  | 6.0           |
| 26                    | 0                  | 2                                     | 3.0  | 1   | 2  | 5  | 2  | 5   | 1  | 1 ...  | 1.0           |
| 28                    | 1                  | 4                                     | 4.0  | 5   | 4  | 5  | 2  | 5   | 1  | 1 ...  | 8.0           |
| 29                    | 1                  | 4                                     | 6.0  | 3   | 1  | 5  | 2  | 5   | 3  | 2 ...  | 3.0           |

|    |   |                      |     |                                     |  |   |  |  |   |  |  |     |  |
|----|---|----------------------|-----|-------------------------------------|--|---|--|--|---|--|--|-----|--|
| 30 | 1 | 1                    | 0.0 | 5                                   | 1  | 5   | 1  | 2  | 3   | 11   | What browser do you run on your device to access the website?    | ... | 5.0  |
| 32 |   | 0                    | 3   | 2.0                                 | 5  | 6 How many times you have made an online purchase in the past year? | 7 How do you access the internet while shopping on-line? | 1  | 9 What is the size of your mobile device? | 10 What is the operating system (OS) of your device? | 11 What browser do you run on your device to access the website? | ... | 2.0  |
| 33 |   | 1                    | 2   | Which city do you shop online from? | 5 Since How Long You are Shopping Online ? | 6 How many times you have made an online purchase in the past year? | 7 How do you access the internet while shopping on-line? | 8 Which device do you use to access the online shopping? | 9 What is the size of your mobile device? | 10 What is the operating system (OS) of your device? | 11 What browser do you run on your device to access the website? | ... | Presence of online assistance through multiple channel |
| 34 | 1 | Gender of respondent | 2   | How old are you?                    | 5 Since How Long You are Shopping Online ? | 6 How many times you have made an online purchase in the past year? | 7 How do you access the internet while shopping on-line? | 8 Which device do you use to access the online shopping? | 9 What is the size of your mobile device? | 10 What is the operating system (OS) of your device? | 11 What browser do you run on your device to access the website? | ... | time taken to complete the purchase                    |
| 35 |   | 1                    | 2   | Which city do you shop online from? | 5 Since How Long You are Shopping Online ? | 6 How many times you have made an online purchase in the past year? | 7 How do you access the internet while shopping on-line? | 8 Which device do you use to access the online shopping? | 9 What is the size of your mobile device? | 10 What is the operating system (OS) of your device? | 11 What browser do you run on your device to access the website? | ... | ...  |
| 36 |   | 0                    | 3   | Which city do you shop online from? | 5 Since How Long You are Shopping Online ? | 6 How many times you have made an online purchase in the past year? | 7 How do you access the internet while shopping on-line? | 8 Which device do you use to access the online shopping? | 9 What is the size of your mobile device? | 10 What is the operating system (OS) of your device? | 11 What browser do you run on your device to access the website? | ... | ...  |
| 37 |   | 0                    | 4   | 2.0                                 | 5  | 2   | 5  | 4  | 5   | 2  | 1  | ... | 3.0  |
| 39 |   | 1                    | 2   | 6.0                                 | 3  | 4   | 5  | 1  | 4   | 2  | 1  | ... | 3.0  |
| 40 |   | 1                    | 2   | 0.0                                 | 5  | 4   | 5  | 2  | 5   | 1  | 1  | ... | 1.0  |
| 41 |   | 0                    | 3   | 9.0                                 | 4  | 5   | 5  | 2  | 5   | 1  | 1  | ... | 0.0  |
| 42 |   | 0                    | 2   | 2.0                                 | 3  | 5   | 5  | 2  | 5   | 1  | 1  | ... | 6.0  |
| 43 |   | 1                    | 2   | 4.0                                 | 1  | 1   | 5  | 2  | 5   | 1  | 1  | ... | 1.0  |
| 45 |   | 1                    | 4   | 0.0                                 | 5  | 5   | 5  | 1  | 2   | 3  | 1  | ... | 2.0  |
| 46 |   | 0                    | 4   | 9.0                                 | 5  | 4   | 5  | 1  | 4   | 2  | 1  | ... | 8.0  |
| 47 |   | 0                    | 1   | 2.0                                 | 5  | 1   | 5  | 1  | 4   | 3  | 2  | ... | 3.0  |
| 48 |   | 1                    | 3   | 4.0                                 | 3  | 1   | 5  | 1  | 4   | 3  | 2  | ... | 3.0  |
| 49 |   | 1                    | 3   | 6.0                                 | 5  | 5   | 5  | 1  | 2   | 3  | 2  | ... | 5.0  |
| 50 |   | 1                    | 4   | 0.0                                 | 4  | 4   | 5  | 1  | 4   | 2  | 1  | ... | 4.0  |
| 51 |   | 0                    | 5   | 9.0                                 | 3  | 4   | 5  | 4  | 5   | 2  | 1  | ... | 3.0  |
| 54 |   | 1                    | 2   | 7.0                                 | 5  | 1   | 5  | 1  | 4   | 2  | 1  | ... | 3.0  |
| 55 |   | 1                    | 2   | 0.0                                 | 4  | 2   | 5  | 2  | 5   | 1  | 1  | ... | 1.0  |
| 56 |   | 0                    | 2   | 9.0                                 | 3  | 5   | 5  | 2  | 5   | 1  | 1  | ... | 0.0  |
| 57 |   | 0                    | 2   | 2.0                                 | 1  | 1   | 5  | 2  | 5   | 1  | 1  | ... | 6.0  |
| 58 |   | 1                    | 3   | 4.0                                 | 5  | 2   | 5  | 2  | 5   | 1  | 1  | ... | 1.0  |
| 60 |   | 1                    | 4   | 0.0                                 | 4  | 4   | 5  | 1  | 2   | 3  | 1  | ... | 2.0  |
| 61 |   | 0                    | 1   | 9.0                                 | 3  | 1   | 5  | 1  | 4   | 2  | 1  | ... | 8.0  |
| 62 |   | 0                    | 3   | 2.0                                 | 1  | 1   | 5  | 1  | 4   | 3  | 2  | ... | 3.0  |
| 63 |   | 1                    | 3   | 4.0                                 | 5  | 5   | 5  | 1  | 4   | 3  | 2  | ... | 3.0  |
| 67 |   | 0                    | 4   | 2.0                                 | 3  | 1   | 5  | 1  | 2   | 3  | 1  | ... | 2.0  |
| 68 |   | 1                    | 4   | 4.0                                 | 1  | 5   | 5  | 1  | 4   | 2  | 1  | ... | 8.0  |
| 69 |   | 1                    | 2   | 7.0                                 | 5  | 4   | 5  | 1  | 4   | 3  | 2  | ... | 3.0  |
| 71 |   | 0                    | 3   | 9.0                                 | 4  | 1   | 5  | 2  | 5   | 1  | 1  | ... | 1.0  |
| 72 |   | 0                    | 2   | 2.0                                 | 3  | 5   | 5  | 2  | 5   | 1  | 1  | ... | 6.0  |
| 73 |   | 1                    | 2   | 4.0                                 | 1  | 4   | 5  | 2  | 5   | 1  | 1  | ... | 1.0  |
| 75 |   | 1                    | 4   | 0.0                                 | 3  | 1   | 5  | 2  | 5   | 1  | 1  | ... | 0.0  |
| 76 |   | 0                    | 4   | 9.0                                 | 5  | 1   | 5  | 2  | 5   | 1  | 1  | ... | 0.0  |
| 77 |   | 0                    | 1   | 2.0                                 | 4  | 5   | 5  | 1  | 2   | 3  | 1  | ... | 2.0  |
| 78 |   | 1                    | 3   | 4.0                                 | 3  | 4   | 5  | 1  | 4   | 2  | 1  | ... | 8.0  |
| 79 |   | 1                    | 3   | 6.0                                 | 1  | 4   | 5  | 1  | 2   | 3  | 2  | ... | 5.0  |
| 80 |   | 1                    | 4   | 0.0                                 | 4  | 2   | 5  | 1  | 4   | 2  | 1  | ... | 4.0  |
| 81 |   | 0                    | 5   | 9.0                                 | 3  | 5   | 5  | 1  | 4   | 2  | 1  | ... | 3.0  |
| 83 |   | 1                    | 4   | 4.0                                 | 1  | 1   | 5  | 1  | 4   | 3  | 1  | ... | 6.0  |
| 84 |   | 1                    | 2   | 6.0                                 | 5  | 1   | 5  | 1  | 4   | 2  | 1  | ... | 0.0  |
| 85 |   | 1                    | 2   | 0.0                                 | 5  | 1   | 5  | 1  | 5   | 2  | 1  | ... | 7.0  |
| 86 |   | 0                    | 3   | 9.0                                 | 4  | 3   | 5  | 1  | 4   | 1  | 1  | ... | 0.0  |

|     |                       |   |   |                              |     |   |   |  |   |  |    |  |     |   |    |   |     |     |     |     |
|-----|-----------------------|---|---|------------------------------|-----|---|---|--|---|--|----|--|-----|---|----|---|-----|-----|-----|-----|
| 87  |                       | 0 | 4 | 2.0                          | 3   | 1   | 5 | 1  | 4 | 3  | 11 | 2  | ... | 3.0   |    |   |     |     |     |     |
| 89  |                       | 0 | 2 | 9.9                          | 5   | 6   | 2 | 4  | 9 | 10   | 11 | 2  | ... | 3.0   |    |   |     |     |     |     |
| 90  |                       | 1 | 2 | Which city do you shop from? | 5   | Since how many times you have made an online purchase in the past 1 year? | 7 | How do you access the internet while shopping on-line? | 8 | Which device do you use to access the online shopping? | 9  | What is the size of your mobile device?        | 10  | What is the operating system (OS) of your device? | 11 | What browser do you run on your device to access the website? | ... | 3.0 |     |     |
| 91  | 1Gender of respondent |   | 2 | How old are you?             | 5   | Long You are Shopping Online ?  | 6 | you access the internet while shopping on-line?        | 8 | you use to access the online shopping?                 | 9  | What is the screen size of your mobile device? | 10  | What is the operating system (OS) of your device? | 11 | What browser do you run on your device to access the website? | ... | 3.0 |     |     |
| 92  |                       |   | 1 |                              |     |   |   |  |   |  |    |  |     |   |    |   | ... | 3.0 |     |     |
| 93  |                       |   | 1 | 2                            |     |   |   |  |   |  |    |  |     |   |    |   |     | ... | 3.0 |     |
| 94  |                       |   | 1 | 2                            | 4.0 |   | 4 |  | 3 |  | 1  |  | 4   |   | 2  |   |     | ... | 8.0 |     |
| 95  |                       | 1 | 2 | 0.0                          |     | 3   |   | 2  |   | 1  |    | 2  |     | 3   |    | 2   | ... | 5.0 |     |     |
| 96  |                       | 1 | 3 | 3.0                          |     | 5   |   | 5  |   | 2  |    | 1  |     | 4   |    | 2   |     | 1   | ... | 4.0 |
| 97  |                       | 1 | 1 | 10.0                         |     | 3   |   | 1  |   | 2  |    | 1  |     | 4   |    | 2   |     | 1   | ... | 3.0 |
| 98  |                       | 1 | 3 | 2.0                          |     | 1   |   | 1  |   | 2  |    | 2  |     | 5   |    | 1   |     | 1   | ... | 1.0 |
| 99  |                       | 1 | 4 | 9.0                          |     | 5   |   | 1  |   | 2  |    | 2  |     | 5   |    | 1   |     | 1   | ... | 6.0 |
| 100 |                       | 1 | 5 | 5.0                          |     | 3   |   | 1  |   | 2  |    | 2  |     | 5   |    | 1   |     | 1   | ... | 1.0 |
| 102 |                       | 1 | 3 | 10.0                         |     | 4   |   | 1  |   | 3  |    | 2  |     | 5   |    | 1   |     | 1   | ... | 0.0 |
| 104 |                       | 1 | 5 | 5.0                          |     | 1   |   | 1  |   | 2  |    | 1  |     | 4   |    | 3   |     | 1   | ... | 6.0 |
| 105 |                       | 1 | 4 | 3.0                          |     | 3   |   | 4  |   | 3  |    | 1  |     | 4   |    | 2   |     | 1   | ... | 0.0 |
| 106 |                       | 1 | 3 | 3.0                          |     | 2   |   | 4  |   | 3  |    | 1  |     | 5   |    | 2   |     | 1   | ... | 7.0 |
| 107 |                       | 1 | 1 | 3.0                          |     | 1   |   | 1  |   | 2  |    | 1  |     | 4   |    | 1   |     | 1   | ... | 0.0 |
| 108 |                       | 0 | 2 | 6.0                          |     | 4   |   | 1  |   | 3  |    | 1  |     | 4   |    | 3   |     | 2   | ... | 3.0 |
| 109 |                       | 0 | 4 | 2.0                          |     | 5   |   | 4  |   | 2  |    | 4  |     | 5   |    | 2   |     | 1   | ... | 3.0 |
| 111 |                       | 0 | 3 | 8.0                          |     | 5   |   | 3  |   | 3  |    | 2  |     | 5   |    | 1   |     | 1   | ... | 0.0 |
| 114 |                       | 1 | 2 | 2.0                          |     | 5   |   | 5  |   | 2  |    | 1  |     | 2   |    | 3   |     | 1   | ... | 2.0 |
| 115 |                       | 1 | 2 | 4.0                          |     | 4   |   | 5  |   | 3  |    | 1  |     | 4   |    | 2   |     | 1   | ... | 8.0 |
| 116 |                       | 1 | 2 | 0.0                          |     | 3   |   | 2  |   | 2  |    | 1  |     | 2   |    | 3   |     | 2   | ... | 5.0 |
| 117 |                       | 0 | 3 | 9.0                          |     | 5   |   | 5  |   | 2  |    | 1  |     | 4   |    | 2   |     | 1   | ... | 4.0 |
| 118 |                       | 1 | 1 | 10.0                         |     | 3   |   | 1  |   | 2  |    | 1  |     | 4   |    | 2   |     | 1   | ... | 3.0 |
| 119 |                       | 1 | 3 | 2.0                          |     | 1   |   | 1  |   | 2  |    | 2  |     | 5   |    | 1   |     | 1   | ... | 1.0 |
| 120 |                       | 1 | 4 | 9.0                          |     | 5   |   | 1  |   | 2  |    | 2  |     | 5   |    | 1   |     | 1   | ... | 6.0 |
| 121 |                       | 1 | 5 | 5.0                          |     | 3   |   | 1  |   | 2  |    | 2  |     | 5   |    | 1   |     | 1   | ... | 1.0 |
| 123 |                       | 1 | 3 | 10.0                         |     | 4   |   | 1  |   | 3  |    | 2  |     | 5   |    | 1   |     | 1   | ... | 0.0 |
| 125 |                       | 1 | 5 | 5.0                          |     | 1   |   | 1  |   | 2  |    | 1  |     | 4   |    | 3   |     | 1   | ... | 6.0 |
| 126 |                       | 1 | 4 | 3.0                          |     | 3   |   | 4  |   | 3  |    | 1  |     | 4   |    | 2   |     | 1   | ... | 0.0 |
| 127 |                       | 1 | 3 | 3.0                          |     | 2   |   | 4  |   | 3  |    | 1  |     | 5   |    | 2   |     | 1   | ... | 7.0 |
| 128 |                       | 1 | 1 | 3.0                          |     | 1   |   | 1  |   | 2  |    | 1  |     | 4   |    | 1   |     | 1   | ... | 0.0 |
| 129 |                       | 0 | 2 | 6.0                          |     | 4   |   | 1  |   | 3  |    | 1  |     | 4   |    | 3   |     | 2   | ... | 3.0 |
| 130 |                       | 0 | 4 | 2.0                          |     | 5   |   | 4  |   | 2  |    | 4  |     | 5   |    | 2   |     | 1   | ... | 3.0 |
| 132 |                       | 0 | 3 | 8.0                          |     | 5   |   | 3  |   | 3  |    | 2  |     | 5   |    | 1   |     | 1   | ... | 0.0 |
| 135 |                       | 1 | 1 | 10.0                         |     | 3   |   | 1  |   | 2  |    | 1  |     | 4   |    | 2   |     | 1   | ... | 3.0 |
| 136 |                       | 1 | 3 | 9.0                          |     | 5   |   | 5  |   | 2  |    | 1  |     | 4   |    | 2   |     | 1   | ... | 4.0 |
| 137 |                       | 0 | 3 | 8.0                          |     | 5   |   | 3  |   | 3  |    | 2  |     | 5   |    | 1   |     | 1   | ... | 0.0 |
| 138 |                       | 1 | 2 | 4.0                          |     | 4   |   | 5  |   | 3  |    | 1  |     | 4   |    | 2   |     | 1   | ... | 8.0 |
| 139 |                       | 0 | 2 | 6.0                          |     | 4   |   | 1  |   | 3  |    | 1  |     | 4   |    | 3   |     | 2   | ... | 3.0 |
| 140 |                       | 0 | 4 | 2.0                          |     | 5   |   | 4  |   | 2  |    | 4  |     | 5   |    | 2   |     | 1   | ... | 3.0 |
| 141 |                       | 1 | 4 | 9.0                          |     | 5   |   | 1  |   | 2  |    | 2  |     | 5   |    | 1   |     | 1   | ... | 6.0 |
| 142 |                       | 1 | 2 | 0.0                          |     | 3   |   | 2  |   | 2  |    | 1  |     | 2   |    | 3   |     | 2   | ... | 5.0 |

|     |                      |                  |                                     |  |   |  |   |   |  |  |     |  |
|-----|----------------------|------------------|-------------------------------------|--|---|--|---|---|--|--|-----|--|
| 144 | 1                    | 3                | 2.0                                 | 1  | 1   | 2  | 2 | 5   | 1  | 1  | ... | 1.0  |
| 145 | 1                    | 2                | 2.0                                 | 5  | 6 How many times you have made an online purchase in the past year? | 7 How do you access the internet while shopping on-line? | 1 | 9 What is the size of your mobile device? | 10 What is the operating system (OS) of your device? | 11 What browser do you run on your device to access the website? | ... | 2.0  |
| 146 | 1                    | 2                | 5.0                                 | 5 Since How Long You are Shopping Online ? | 6   | 8 Which device do you use to access the online shopping? | 2 | 5   | 3  | 1  | ... | Presence of online assistance through multiple channel |
| 148 | Gender of respondent | How old are you? | Which city do you shop online from? | Long You are Shopping Online ?             | You made an online purchase in the past year?                       | the internet while shopping on-line?                     | 2 | the screen size of your mobile device?    | the operating system (OS) of your device?            | your device?   | ... | time taken to access the website?                      |
| 149 | 1                    | 2                | 4.0                                 | 4  | 4   | 2  | 2 | 5   | 1  | 1  | ... | 1.0  |
| 150 | 1                    | 2                | 4.0                                 | 1  | 1   | 2  | 2 | 5   | 1  | 1  | ... | 1.0  |
| 152 | 1                    | 5                | 5.0                                 | 3  | 1   | 2  | 2 | 5   | 1  | 1  | ... | 1.0  |
| 154 | 1                    | 4                | 4.0                                 | 1  | 1   | 3  | 1 | 4   | 3  | 1  | ... | 6.0  |
| 155 | 1                    | 5                | 5.0                                 | 1  | 1   | 2  | 1 | 4   | 3  | 1  | ... | 6.0  |
| 159 | 1                    | 3                | 6.0                                 | 1  | 4   | 3  | 1 | 2   | 3  | 2  | ... | 5.0  |
| 160 | 1                    | 3                | 2.0                                 | 1  | 1   | 3  | 2 | 5   | 1  | 1  | ... | 1.0  |
| 161 | 1                    | 2                | 6.0                                 | 5  | 4   | 3  | 2 | 5   | 1  | 1  | ... | 1.0  |
| 162 | 1                    | 2                | 0.0                                 | 3  | 2   | 2  | 1 | 2   | 3  | 2  | ... | 5.0  |
| 163 | 1                    | 3                | 2.0                                 | 1  | 1   | 2  | 2 | 5   | 1  | 1  | ... | 1.0  |
| 164 | 1                    | 3                | 4.0                                 | 5  | 5   | 3  | 1 | 4   | 3  | 2  | ... | 3.0  |
| 165 | 1                    | 4                | 4.0                                 | 1  | 5   | 3  | 1 | 4   | 2  | 1  | ... | 8.0  |
| 166 | 1                    | 2                | 7.0                                 | 5  | 4   | 3  | 1 | 4   | 3  | 2  | ... | 3.0  |
| 167 | 1                    | 3                | 4.0                                 | 3  | 4   | 3  | 1 | 4   | 2  | 1  | ... | 8.0  |
| 168 | 1                    | 2                | 4.0                                 | 5  | 4   | 3  | 2 | 5   | 1  | 1  | ... | 6.0  |
| 169 | 1                    | 2                | 2.0                                 | 5  | 5   | 2  | 2 | 5   | 1  | 1  | ... | 6.0  |
| 170 | 1                    | 2                | 4.0                                 | 4  | 5   | 3  | 1 | 4   | 2  | 1  | ... | 8.0  |
| 171 | 1                    | 4                | 9.0                                 | 5  | 1   | 2  | 2 | 5   | 1  | 1  | ... | 6.0  |
| 173 | 1                    | 2                | 0.0                                 | 5  | 1   | 3  | 1 | 5   | 2  | 1  | ... | 7.0  |
| 174 | 1                    | 3                | 3.0                                 | 2  | 4   | 3  | 1 | 5   | 2  | 1  | ... | 7.0  |
| 175 | 1                    | 1                | 3.0                                 | 1  | 1   | 2  | 1 | 4   | 1  | 1  | ... | 0.0  |
| 176 | 1                    | 4                | 0.0                                 | 4  | 2   | 3  | 1 | 4   | 2  | 1  | ... | 4.0  |
| 177 | 1                    | 3                | 3.0                                 | 5  | 5   | 2  | 1 | 4   | 2  | 1  | ... | 4.0  |
| 178 | 1                    | 4                | 0.0                                 | 3  | 1   | 3  | 2 | 5   | 1  | 1  | ... | 0.0  |
| 179 | 1                    | 2                | 6.0                                 | 5  | 1   | 3  | 1 | 4   | 2  | 1  | ... | 0.0  |
| 180 | 1                    | 1                | 10.0                                | 3  | 1   | 2  | 1 | 4   | 2  | 1  | ... | 3.0  |
| 181 | 1                    | 3                | 10.0                                | 4  | 1   | 3  | 2 | 5   | 1  | 1  | ... | 0.0  |
| 183 | 1                    | 4                | 3.0                                 | 3  | 4   | 3  | 1 | 4   | 2  | 1  | ... | 0.0  |
| 184 | 0                    | 4                | 2.0                                 | 3  | 1   | 3  | 1 | 2   | 3  | 1  | ... | 2.0  |
| 185 | 0                    | 1                | 2.0                                 | 4  | 5   | 3  | 1 | 2   | 3  | 1  | ... | 2.0  |
| 186 | 0                    | 3                | 9.0                                 | 4  | 1   | 3  | 2 | 5   | 1  | 1  | ... | 1.0  |
| 187 | 0                    | 1                | 9.0                                 | 3  | 1   | 3  | 1 | 4   | 2  | 1  | ... | 8.0  |
| 188 | 0                    | 3                | 2.0                                 | 1  | 1   | 3  | 1 | 4   | 3  | 2  | ... | 3.0  |
| 189 | 0                    | 2                | 2.0                                 | 3  | 5   | 3  | 2 | 5   | 1  | 1  | ... | 6.0  |
| 190 | 0                    | 4                | 2.0                                 | 3  | 1   | 3  | 1 | 4   | 3  | 2  | ... | 3.0  |
| 191 | 0                    | 2                | 9.0                                 | 5  | 2   | 3  | 4 | 5   | 2  | 1  | ... | 3.0  |
| 192 | 0                    | 2                | 6.0                                 | 4  | 1   | 3  | 1 | 4   | 3  | 2  | ... | 3.0  |
| 194 | 0                    | 4                | 9.0                                 | 5  | 1   | 3  | 2 | 5   | 1  | 1  | ... | 0.0  |
| 195 | 0                    | 3                | 9.0                                 | 4  | 3   | 3  | 1 | 4   | 1  | 1  | ... | 0.0  |
| 197 | 0                    | 5                | 9.0                                 | 3  | 5   | 3  | 1 | 4   | 2  | 1  | ... | 3.0  |
| 199 | 1                    | 4                | 0.0                                 | 3  | 1   | 3  | 2 | 5   | 1  | 1  | ... | 0.0  |

|     |                       |   |          |            |          |       |            |            |            |           |          |            |        |           |     |     |
|-----|-----------------------|---|----------|------------|----------|-------|------------|------------|------------|-----------|----------|------------|--------|-----------|-----|-----|
| 200 |                       | 1 | 2        | 6.0        |          | 5     | 1          | 3          | 1          | 4         | 2        | 11 What    | 1      | ...       | 0.0 |     |
| 201 |                       | 1 | 1        | 10.0       |          | 3     | 6 How many | 7 How do   | 1          | 9 What is | 10 What  | 11 browser | 1      | ...       | 3.0 |     |
| 202 |                       | 1 | 2        | Which city | 5 Since  | 4 How | times you  | you access | 8 Which    | 2 the     | 5 is the | 1 do you   | ...    | Presence  | 0.0 |     |
| 204 | 1Gender of respondent | 4 | How old  | 3.0        | Long You | are   | you have   | the        | 8 Which    | 2 device  | 5 do     | 1 run on   | ...    | of online | 0.0 |     |
| 205 |                       | 0 | are you? | 10.0       | Shopping | 6     | made an    | internet   | you use to | access    | the      | size of    | 2 your | 1 device  | ... |     |
| 208 |                       | 1 | 4        | 0.0        | Online ? | 4     | purchase   | while      | the online | shopping? | 1        | device?    | 2      | access    | the | ... |
| 209 |                       | 1 | 3        | 3.0        |          | 5     | in the     | shopping   | on-line?   |           | 1        | device?    | 2      | website?  | ... | 4.0 |
| 211 |                       | 1 | 2        | 0.0        |          | 5     | 1          | 3          | 1          | 5         | 2        | 1          | ...    |           | 7.0 |     |
| 212 |                       | 1 | 3        | 3.0        |          | 2     | 4          | 3          | 1          | 5         | 2        | 1          | ...    |           | 7.0 |     |
| 213 |                       | 1 | 1        | 3.0        |          | 1     | 1          | 2          | 1          | 4         | 1        | 1          | ...    |           | 0.0 |     |
| 215 |                       | 0 | 4        | 9.0        |          | 5     | 1          | 3          | 2          | 5         | 1        | 1          | ...    |           | 0.0 |     |
| 216 |                       | 0 | 3        | 9.0        |          | 4     | 3          | 3          | 1          | 4         | 1        | 1          | ...    |           | 0.0 |     |
| 217 |                       | 1 | 3        | 4.0        |          | 5     | 5          | 3          | 1          | 4         | 3        | 2          | ...    |           | 3.0 |     |
| 218 |                       | 1 | 4        | 4.0        |          | 1     | 5          | 3          | 1          | 4         | 2        | 1          | ...    |           | 8.0 |     |
| 219 |                       | 1 | 2        | 7.0        |          | 5     | 4          | 3          | 1          | 4         | 3        | 2          | ...    |           | 3.0 |     |
| 220 |                       | 1 | 3        | 4.0        |          | 3     | 4          | 3          | 1          | 4         | 2        | 1          | ...    |           | 8.0 |     |
| 221 |                       | 1 | 2        | 4.0        |          | 5     | 4          | 3          | 2          | 5         | 1        | 1          | ...    |           | 6.0 |     |
| 222 |                       | 1 | 2        | 2.0        |          | 5     | 5          | 2          | 2          | 5         | 1        | 1          | ...    |           | 6.0 |     |
| 223 |                       | 1 | 2        | 4.0        |          | 4     | 5          | 3          | 1          | 4         | 2        | 1          | ...    |           | 8.0 |     |
| 224 |                       | 1 | 4        | 9.0        |          | 5     | 1          | 2          | 2          | 5         | 1        | 1          | ...    |           | 6.0 |     |
| 225 |                       | 0 | 1        | 9.0        |          | 3     | 1          | 3          | 1          | 4         | 2        | 1          | ...    |           | 8.0 |     |
| 226 |                       | 0 | 3        | 2.0        |          | 1     | 1          | 3          | 1          | 4         | 3        | 2          | ...    |           | 3.0 |     |
| 227 |                       | 0 | 2        | 2.0        |          | 3     | 5          | 3          | 2          | 5         | 1        | 1          | ...    |           | 6.0 |     |
| 228 |                       | 0 | 4        | 2.0        |          | 3     | 1          | 3          | 1          | 4         | 3        | 2          | ...    |           | 3.0 |     |
| 229 |                       | 0 | 2        | 9.0        |          | 5     | 2          | 3          | 4          | 5         | 2        | 1          | ...    |           | 3.0 |     |
| 230 |                       | 0 | 2        | 6.0        |          | 4     | 1          | 3          | 1          | 4         | 3        | 2          | ...    |           | 3.0 |     |
| 234 |                       | 1 | 3        | 6.0        |          | 1     | 4          | 3          | 1          | 2         | 3        | 2          | ...    |           | 5.0 |     |
| 235 |                       | 1 | 3        | 2.0        |          | 1     | 1          | 3          | 2          | 5         | 1        | 1          | ...    |           | 1.0 |     |
| 236 |                       | 1 | 2        | 6.0        |          | 5     | 4          | 3          | 2          | 5         | 1        | 1          | ...    |           | 1.0 |     |
| 237 |                       | 1 | 2        | 0.0        |          | 3     | 2          | 2          | 1          | 2         | 3        | 2          | ...    |           | 5.0 |     |
| 238 |                       | 1 | 3        | 2.0        |          | 1     | 1          | 2          | 2          | 5         | 1        | 1          | ...    |           | 1.0 |     |
| 239 |                       | 0 | 3        | 9.0        |          | 4     | 1          | 3          | 2          | 5         | 1        | 1          | ...    |           | 1.0 |     |
| 240 |                       | 1 | 4        | 4.0        |          | 1     | 1          | 3          | 1          | 4         | 3        | 1          | ...    |           | 6.0 |     |
| 241 |                       | 1 | 5        | 5.0        |          | 1     | 1          | 2          | 1          | 4         | 3        | 1          | ...    |           | 6.0 |     |
| 242 |                       | 1 | 3        | 4.0        |          | 5     | 2          | 3          | 2          | 5         | 1        | 1          | ...    |           | 1.0 |     |
| 243 |                       | 1 | 4        | 0.0        |          | 4     | 4          | 3          | 1          | 2         | 3        | 1          | ...    |           | 2.0 |     |
| 244 |                       | 1 | 2        | 4.0        |          | 1     | 4          | 3          | 2          | 5         | 1        | 1          | ...    |           | 1.0 |     |
| 246 |                       | 1 | 5        | 5.0        |          | 3     | 1          | 2          | 2          | 5         | 1        | 1          | ...    |           | 1.0 |     |
| 248 |                       | 0 | 4        | 2.0        |          | 3     | 1          | 3          | 1          | 2         | 3        | 1          | ...    |           | 2.0 |     |
| 249 |                       | 0 | 1        | 2.0        |          | 4     | 5          | 3          | 1          | 2         | 3        | 1          | ...    |           | 2.0 |     |
| 251 |                       | 1 | 1        | 10.0       |          | 3     | 1          | 2          | 1          | 4         | 2        | 1          | ...    |           | 3.0 |     |
| 252 |                       | 0 | 2        | 6.0        |          | 4     | 1          | 3          | 1          | 4         | 3        | 2          | ...    |           | 3.0 |     |
| 253 |                       | 0 | 4        | 2.0        |          | 5     | 4          | 2          | 4          | 5         | 2        | 1          | ...    |           | 3.0 |     |
| 254 |                       | 1 | 5        | 5.0        |          | 3     | 1          | 2          | 2          | 5         | 1        | 1          | ...    |           | 1.0 |     |
| 255 |                       | 0 | 3        | 8.0        |          | 5     | 3          | 3          | 2          | 5         | 1        | 1          | ...    |           | 0.0 |     |

|     |                       |                    |            |            |            |             |            |              |           |                   |                |     |            |     |
|-----|-----------------------|--------------------|------------|------------|------------|-------------|------------|--------------|-----------|-------------------|----------------|-----|------------|-----|
| 256 | 1                     | 4                  | 9.0        | 5          | 1          | 2           | 2          | 5            | 1         | 11                | What           | 1   | ...        | 6.0 |
| 257 | 1                     | 3                  | 2.0        | 1          | 6 How many | 7 How do    | 2          | 9 What is    | 10 What   | 11 browser        | do you         | ... | 1.0        |     |
| 258 | 1                     | 2                  | Which city | 5 Since    | 6 How      | 7 you have  | 8 Which    | 9 the        | 10 is the | 11 do you         | run on         | ... | Presence   |     |
| 260 | 1Gender of respondent | 2 How old are you? | 3 you      | 4 Long You | 5 are      | 6 made an   | 7 the      | 8 you use to | 9 size of | 10 system (OS) of | 11 your device | ... | assistance |     |
| 261 | 1                     | 2                  | 4.0        | 5          | 6 Shopping | 7 purchases | 8 while    | 9 the online | 10 mobile | 11 device?        | ...            | ... | through    |     |
| 262 | 1                     | 2                  | 0.0        | 3          | 4 Online ? | 5 in the    | 6 shopping | 7 shopping?  | 8 device? | 9 device?         | 10 website?    | ... | channel    |     |
| 265 | 1                     | 3                  | 3.0        | 2          | 4 year?    | 3           | 1          | 5            | 2         | ...               | ...            | ... | 7.0        |     |
| 266 | 1                     | 4                  | 0.0        | 3          | 1          | 3           | 2          | 5            | 1         | 1                 | ...            | ... | 0.0        |     |
| 267 | 1                     | 1                  | 10.0       | 3          | 1          | 2           | 1          | 4            | 2         | 1                 | ...            | ... | 3.0        |     |
| 268 | 1                     | 4                  | 3.0        | 3          | 4          | 3           | 1          | 4            | 2         | 1                 | ...            | ... | 0.0        |     |

215 rows x 69 columns



In [38]:

```
y=dfnew['Which of the Indian online retailer would you recommend to a friend?']
y
```

Out[38]:

- 1 3.0
- 2 5.0
- 3 1.0
- 4 3.0
- 5 4.0
- 6 7.0
- 8 0.0
- 9 6.0
- 10 0.0
- 11 1.0
- 12 2.0
- 14 5.0
- 15 1.0
- 16 3.0
- 17 4.0
- 18 7.0
- 19 1.0
- 20 3.0
- 22 0.0
- 23 6.0
- 24 0.0
- 25 1.0
- 26 2.0
- 28 5.0
- 29 1.0
- 30 3.0
- 32 3.0
- 33 5.0
- 34 1.0
- 35 3.0
- 36 4.0
- 37 7.0
- 39 0.0
- 40 6.0
- 41 0.0
- 42 1.0
- 43 2.0
- 45 3.0
- 46 5.0
- 47 1.0
- 48 1.0
- 49 3.0
- 50 4.0
- 51 7.0
- 54 0.0
- 55 6.0

|     |     |
|-----|-----|
| 56  | 0.0 |
| 57  | 1.0 |
| 58  | 2.0 |
| 60  | 3.0 |
| 61  | 5.0 |
| 62  | 1.0 |
| 63  | 1.0 |
| 67  | 3.0 |
| 68  | 5.0 |
| 69  | 1.0 |
| 71  | 6.0 |
| 72  | 1.0 |
| 73  | 2.0 |
| 75  | 0.0 |
| 76  | 0.0 |
| 77  | 3.0 |
| 78  | 5.0 |
| 79  | 3.0 |
| 80  | 4.0 |
| 81  | 0.0 |
| 83  | 1.0 |
| 84  | 0.0 |
| 85  | 6.0 |
| 86  | 0.0 |
| 87  | 1.0 |
| 89  | 7.0 |
| 90  | 6.0 |
| 91  | 1.0 |
| 92  | 6.0 |
| 93  | 1.0 |
| 94  | 5.0 |
| 95  | 3.0 |
| 96  | 4.0 |
| 97  | 0.0 |
| 98  | 6.0 |
| 99  | 1.0 |
| 100 | 2.0 |
| 102 | 0.0 |
| 104 | 1.0 |
| 105 | 0.0 |
| 106 | 6.0 |
| 107 | 0.0 |
| 108 | 1.0 |
| 109 | 7.0 |
| 111 | 0.0 |
| 114 | 3.0 |
| 115 | 5.0 |
| 116 | 3.0 |
| 117 | 4.0 |
| 118 | 0.0 |
| 119 | 6.0 |
| 120 | 1.0 |
| 121 | 2.0 |
| 123 | 0.0 |
| 125 | 1.0 |
| 126 | 0.0 |
| 127 | 6.0 |
| 128 | 0.0 |
| 129 | 1.0 |
| 130 | 7.0 |
| 132 | 0.0 |
| 135 | 0.0 |
| 136 | 4.0 |
| 137 | 0.0 |
| 138 | 5.0 |
| 139 | 1.0 |
| 140 | 7.0 |
| 141 | 1.0 |
| 142 | 3.0 |
| 144 | 6.0 |
| 145 | 3.0 |
| 146 | 2.0 |



|     |     |
|-----|-----|
| 148 | 2.0 |
| 149 | 3.0 |
| 150 | 2.0 |
| 152 | 2.0 |
| 154 | 1.0 |
| 155 | 1.0 |
| 159 | 3.0 |
| 160 | 6.0 |
| 161 | 6.0 |
| 162 | 3.0 |
| 163 | 6.0 |
| 164 | 1.0 |
| 165 | 5.0 |
| 166 | 1.0 |
| 167 | 5.0 |
| 168 | 1.0 |
| 169 | 1.0 |
| 170 | 5.0 |
| 171 | 1.0 |
| 173 | 6.0 |
| 174 | 6.0 |
| 175 | 0.0 |
| 176 | 4.0 |
| 177 | 4.0 |
| 178 | 0.0 |
| 179 | 0.0 |
| 180 | 0.0 |
| 181 | 0.0 |
| 183 | 0.0 |
| 184 | 3.0 |
| 185 | 3.0 |
| 186 | 6.0 |
| 187 | 5.0 |
| 188 | 1.0 |
| 189 | 1.0 |
| 190 | 1.0 |
| 191 | 7.0 |
| 192 | 1.0 |
| 194 | 0.0 |
| 195 | 0.0 |
| 197 | 0.0 |
| 199 | 0.0 |
| 200 | 0.0 |
| 201 | 0.0 |
| 202 | 0.0 |
| 204 | 0.0 |
| 205 | 0.0 |
| 208 | 4.0 |
| 209 | 4.0 |
| 211 | 6.0 |
| 212 | 6.0 |
| 213 | 0.0 |
| 215 | 0.0 |
| 216 | 0.0 |
| 217 | 1.0 |
| 218 | 5.0 |
| 219 | 1.0 |
| 220 | 5.0 |
| 221 | 1.0 |
| 222 | 1.0 |
| 223 | 5.0 |
| 224 | 1.0 |
| 225 | 5.0 |
| 226 | 1.0 |
| 227 | 1.0 |
| 228 | 1.0 |
| 229 | 7.0 |
| 230 | 1.0 |
| 234 | 3.0 |
| 235 | 6.0 |
| 236 | 6.0 |
| 237 | 3.0 |

```
238 6.0
239 6.0
240 1.0
241 1.0
242 2.0
243 3.0
244 2.0
246 2.0
248 3.0
249 3.0
251 0.0
252 1.0
253 7.0
254 2.0
255 0.0
256 1.0
257 6.0
258 3.0
260 4.0
261 5.0
262 3.0
265 6.0
266 0.0
267 0.0
268 0.0
Name: Which of the Indian online retailer would you recommend to a friend?, dtype: float64
```

## Balancing the input variable (X) and output variable(Y)

In [39]:

```
import sklearn
from sklearn.preprocessing import power_transform
```

In [40]:

```
newx=power_transform(x)
newx
```

Out[40]:

```
array([[ 0.65828059, -0.78560281, -0.74563427, ..., -1.21706606,
        -0.05022704, -0.54575967],
       [ 0.65828059, -0.78560281, -0.04466865, ...,  1.12852121,
         0.85996331, -1.35237104],
       [-1.51910905, -0.78560281,  0.53787135, ..., -0.38025713,
        -1.37756067,  0.00235278],
       ...,
       [ 0.65828059,  0.99910369, -1.7232669 , ...,  1.35985516,
         1.32023624, -1.35237104],
       [ 0.65828059, -1.83586706,  1.51220275, ..., -1.21706606,
         0.4029684 ,  1.09299192],
       [ 0.65828059,  0.99910369, -0.37533805, ..., -1.21706606,
        -1.8019676 , -1.35237104]])
```

In [41]:

```
dfx=pd.DataFrame(newx)
dfx
```

Out[41]:

|   | 0        | 1         | 2         | 3        | 4        | 5         | 6         | 7         | 8        | 9         | ... | 59        | (      |
|---|----------|-----------|-----------|----------|----------|-----------|-----------|-----------|----------|-----------|-----|-----------|--------|
| 0 | 0.658281 | -0.785603 | -0.745634 | 1.150072 | 1.253735 | -1.241087 | -0.815960 | -1.805672 | 1.267007 | -0.478091 | ... | -0.362307 | 1.1746 |
| 1 | 0.658281 | -0.785603 | 0.044669  | 0.334155 | 1.253735 | 0.058069  | -0.815960 | -0.480481 | 0.239694 | -0.478091 | ... | 1.568496  | 0.6740 |

| 2        | 0        | 1        | 2        | 3        | 4        | 5        | 6        | 7        | 8        | 9        | ...      | 59       |          |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1.519109 | 0.785603 | 0.537871 | 0.334155 | 1.046141 | 0.058069 | 0.815960 | 0.480481 | 1.267007 | 2.091650 | ...      | 0.060172 | 1.22821  |          |
| 3        | 0.658281 | -        | -        | -        | -        | -        | -        | -        | 1.267007 | 2.091650 | ...      | 0.749910 | 0.09691  |
| 4        | 0.658281 | 0.146323 | 1.286008 | 1.150072 | 1.253735 | -        | -        | -        | 0.239694 | -        | ...      | 0.425113 | 0.38881  |
| 5        | 1.519109 | 0.999104 | 0.745634 | 1.150072 | 0.916428 | -        | 1.775434 | 1.027327 | 0.239694 | -        | ...      | 0.060172 | 0.83441  |
| 6        | 0.658281 | -        | 1.512203 | -        | -        | -        | -        | -        | 0.239694 | -        | ...      | 0.060172 | 1.54451  |
| 7        | 0.658281 | 0.146323 | -        | -        | -        | -        | 1.110874 | 1.027327 | -        | -        | ...      | -        | 0.95361  |
| 8        | 1.519109 | 0.146323 | 1.049455 | 1.150072 | 0.481020 | 0.058069 | 1.110874 | 1.027327 | -        | -        | ...      | -        | 0.51221  |
| 9        | 0.658281 | 0.999104 | 1.286008 | 1.150072 | -        | -        | 1.110874 | 1.027327 | -        | -        | ...      | 1.044727 | 0.95361  |
| 10       | 0.658281 | 1.793692 | 0.257505 | -        | -        | -        | 1.110874 | 1.027327 | -        | -        | ...      | -        | 0.67401  |
| 11       | 0.658281 | -        | 0.537871 | -        | 1.253735 | -        | -        | -        | 0.239694 | -        | ...      | 1.568496 | 0.67401  |
| 12       | 0.658281 | -        | -        | -        | 1.253735 | 0.058069 | -        | -        | 1.267007 | 2.091650 | ...      | 0.060172 | 1.22821  |
| 13       | 1.519109 | 0.146323 | 1.286008 | -        | 0.481020 | 0.058069 | 1.110874 | 1.027327 | 1.267007 | 2.091650 | ...      | 0.749910 | 0.09691  |
| 14       | 1.519109 | 0.999104 | 0.745634 | -        | 1.583147 | 1.046141 | 1.241087 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ...      | 0.425113 |
| 15       | 0.658281 | 0.999104 | 0.745634 | -        | 1.043909 | 1.046141 | 1.241087 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ...      | 0.060172 |
| 16       | 0.658281 | -        | 1.512203 | -        | -        | -        | -        | -        | 1.267007 | 2.091650 | ...      | 0.060172 | 1.22821  |
| 17       | 0.658281 | -        | 1.286008 | -        | 1.043909 | 1.253735 | 1.241087 | 0.815960 | 1.805672 | 1.267007 | 2.091650 | ...      | 0.749910 |
| 18       | 1.519109 | 0.999104 | 0.044669 | 1.150072 | 0.916428 | 0.058069 | 1.775434 | -        | 0.239694 | -        | ...      | 0.060172 | 1.54451  |
| 19       | 0.658281 | 0.999104 | 0.044669 | 1.150072 | 1.253735 | 1.388906 | 1.597493 | 1.027327 | 1.165520 | 0.478091 | ...      | 0.876981 | 0.95361  |
| 20       | 0.658281 | -        | 0.800828 | 0.334155 | 1.253735 | 1.388906 | -        | -        | -        | -        | ...      | -        |          |
| 21       | 0.658281 | -        | -        | -        | -        | 1.388906 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ...      | 1.044727 | 0.95361  |
| 22       | 1.519109 | 0.785603 | 0.375338 | 1.583147 | 0.119286 | 1.388906 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ...      | 0.876981 | 0.67401  |
| 23       | 0.658281 | 0.999104 | 0.044669 | 1.150072 | 0.916428 | 1.388906 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ...      | 1.568496 | 0.67401  |
| 24       | 0.658281 | 0.999104 | 0.537871 | -        | -        | 1.388906 | 1.110874 | 1.027327 | 1.267007 | 2.091650 | ...      | 0.060172 | 1.22821  |
| 25       | 0.658281 | -        | -        | -        | -        | 1.388906 | -        | -        | 1.267007 | 2.091650 | ...      | 0.749910 | 0.09691  |
| 26       | 1.519109 | 0.146323 | 0.745634 | 1.150072 | 0.481020 | 1.388906 | -        | -        | 1.267007 | -        | ...      | -        | 1.17461  |
| 27       | 0.658281 | 0.999104 | 0.044669 | 1.150072 | -        | 1.388906 | -        | -        | 0.239694 | -        | ...      | 1.568496 | 0.67401  |
| 28       | 0.658281 | 1.793692 | 0.537871 | 0.334155 | -        | 1.388906 | -        | -        | 1.267007 | 2.091650 | ...      | 0.060172 | 1.22821  |
| 29       | 0.658281 | -        | -        | -        | -        | 1.388906 | -        | -        | 1.267007 | 2.091650 | ...      | 0.749910 | 0.09691  |
| 30       | -        | 0.146323 | 0.745634 | -        | -        | 1.388906 | -        | -        | 0.239694 | -        | ...      | 0.060172 | 0.83441  |

|    |          |          |          |          |          |          |          |          |          |          |     |          |        |
|----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----|----------|--------|
| 30 | 1.519109 | 0.146323 | 1.286008 | 1.583147 | 1.046141 | 1.388906 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 0.425113 | 0.3888 |
| 31 | 1.519109 | 0.999104 | 0.745634 | 1.150072 | 0.119286 | 1.388906 | 1.775434 | 1.027327 | 0.239694 | 0.478091 | ... | 0.060172 | 0.8344 |
| 32 | 0.658281 | 0.785603 | 0.537871 | 0.400260 | 0.916428 | 1.388906 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 0.060172 | 1.5445 |
| 33 | 0.658281 | 0.785603 | 1.723267 | 1.150072 | 0.916428 | 1.388906 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 0.876981 | 0.9536 |
| 34 | 1.519109 | 0.146323 | 1.286008 | 0.334155 | 1.253735 | 1.388906 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.576273 | 0.5122 |
| 35 | 1.519109 | 0.785603 | 0.745634 | 0.400260 | 1.253735 | 1.388906 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.044727 | 0.9536 |
| 36 | 0.658281 | 0.785603 | 0.044669 | 1.583147 | 1.046141 | 1.388906 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 0.876981 | 0.6740 |
| 37 | 0.658281 | 0.999104 | 1.723267 | 1.150072 | 1.253735 | 1.388906 | 0.815960 | 1.805672 | 1.267007 | 0.478091 | ... | 0.362307 | 1.1746 |
| 38 | 1.519109 | 0.999104 | 1.286008 | 1.150072 | 0.916428 | 1.388906 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 1.568496 | 0.6740 |
| 39 | 1.519109 | 1.835867 | 0.745634 | 1.150072 | 1.046141 | 1.388906 | 0.815960 | 0.480481 | 1.267007 | 2.091650 | ... | 0.060172 | 1.2282 |
| 40 | 0.658281 | 0.146323 | 0.044669 | 0.400260 | 1.046141 | 1.388906 | 0.815960 | 0.480481 | 1.267007 | 2.091650 | ... | 0.060172 | 1.2282 |
| 41 | 0.658281 | 0.146323 | 0.537871 | 1.150072 | 1.253735 | 1.388906 | 0.815960 | 1.805672 | 1.267007 | 2.091650 | ... | 0.749910 | 0.0969 |
| 42 | 0.658281 | 0.999104 | 1.723267 | 0.334155 | 0.916428 | 1.388906 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 0.425113 | 0.3888 |
| 43 | 1.519109 | 1.793692 | 1.286008 | 0.400260 | 0.916428 | 1.388906 | 1.775434 | 1.027327 | 0.239694 | 0.478091 | ... | 0.060172 | 0.8344 |
| 44 | 0.658281 | 0.785603 | 0.800828 | 1.150072 | 1.046141 | 1.388906 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 0.060172 | 1.5445 |
| 45 | 0.658281 | 0.785603 | 1.723267 | 0.334155 | 0.119286 | 1.388906 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 0.876981 | 0.9536 |
| 46 | 1.519109 | 0.785603 | 1.286008 | 0.400260 | 1.253735 | 1.388906 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.576273 | 0.5122 |
| 47 | 1.519109 | 0.785603 | 0.745634 | 1.583147 | 1.046141 | 1.388906 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.044727 | 0.9536 |
| 48 | 0.658281 | 0.146323 | 0.044669 | 1.150072 | 0.119286 | 1.388906 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 0.876981 | 0.6740 |
| 49 | 0.658281 | 0.999104 | 1.723267 | 0.334155 | 0.916428 | 1.388906 | 0.815960 | 1.805672 | 1.267007 | 0.478091 | ... | 0.362307 | 1.1746 |
| 50 | 1.519109 | 1.835867 | 1.286008 | 0.400260 | 1.046141 | 1.388906 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 1.568496 | 0.6740 |
| 51 | 1.519109 | 0.146323 | 0.745634 | 1.583147 | 1.046141 | 1.388906 | 0.815960 | 0.480481 | 1.267007 | 2.091650 | ... | 0.060172 | 1.2282 |
| 52 | 0.658281 | 0.146323 | 0.044669 | 1.150072 | 1.253735 | 1.388906 | 0.815960 | 0.480481 | 1.267007 | 2.091650 | ... | 0.060172 | 1.2282 |
| 53 | 1.519109 | 0.999104 | 0.745634 | 0.400260 | 1.046141 | 1.388906 | 0.815960 | 1.805672 | 1.267007 | 0.478091 | ... | 0.362307 | 1.1746 |
| 54 | 0.658281 | 0.999104 | 0.044669 | 1.583147 | 1.253735 | 1.388906 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 1.568496 | 0.6740 |
| 55 | 0.658281 | 0.785603 | 0.800828 | 1.150072 | 0.916428 | 1.388906 | 0.815960 | 0.480481 | 1.267007 | 2.091650 | ... | 0.060172 | 1.2282 |
| 56 | 1.519109 | 0.146323 | 1.286008 | 0.334155 | 1.046141 | 1.388906 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 0.876981 | 0.9536 |
| 57 | 1.519109 | 0.785603 | 0.745634 | 0.400260 | 1.253735 | 1.388906 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.044727 | 0.9536 |
| 58 | 0.658281 | 0.785603 | 0.044669 | 1.583147 | 0.916428 | 1.388906 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 0.876981 | 0.6740 |

|    | 0        | 1        | 2        | 3        | 4        | 5        | 6        | 7        | 8        | 9        | ... | 59       |         |
|----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----|----------|---------|
| 59 | 0.658281 | 0.999104 | 1.723267 | 0.400260 | 1.046141 | 1.388906 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.576273 | 1.54451 |
| 60 | 1.519109 | 0.999104 | 1.286008 | 1.150072 | 1.046141 | 1.388906 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.576273 | 0.51227 |
| 61 | 1.519109 | 1.835867 | 0.745634 | 0.334155 | 1.253735 | 1.388906 | 0.815960 | 1.805672 | 1.267007 | 0.478091 | ... | 0.362307 | 1.17461 |
| 62 | 0.658281 | 0.146323 | 0.044669 | 0.400260 | 0.916428 | 1.388906 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 1.568496 | 0.67401 |
| 63 | 0.658281 | 0.146323 | 0.537871 | 1.583147 | 0.916428 | 1.388906 | 0.815960 | 1.805672 | 1.267007 | 2.091650 | ... | 0.749910 | 0.09691 |
| 64 | 0.658281 | 0.999104 | 1.723267 | 0.334155 | 0.119286 | 1.388906 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 0.425113 | 0.38881 |
| 65 | 1.519109 | 1.793692 | 1.286008 | 0.400260 | 1.253735 | 1.388906 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 0.060172 | 1.54451 |
| 66 | 0.658281 | 0.999104 | 0.044669 | 1.583147 | 1.046141 | 1.388906 | 0.815960 | 0.480481 | 1.267007 | 0.478091 | ... | 1.044727 | 0.83441 |
| 67 | 0.658281 | 0.785603 | 0.537871 | 1.150072 | 1.046141 | 1.388906 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 1.576273 | 1.54451 |
| 68 | 0.658281 | 0.785603 | 1.723267 | 1.150072 | 1.046141 | 1.388906 | 0.815960 | 1.027327 | 0.239694 | 0.478091 | ... | 1.316093 | 0.20271 |
| 69 | 1.519109 | 0.146323 | 1.286008 | 0.334155 | 0.481020 | 1.388906 | 0.815960 | 0.480481 | 1.165520 | 0.478091 | ... | 1.576273 | 1.54451 |
| 70 | 1.519109 | 0.999104 | 0.745634 | 0.400260 | 1.046141 | 1.388906 | 0.815960 | 0.480481 | 1.267007 | 2.091650 | ... | 0.060172 | 1.22821 |
| 71 | 1.519109 | 0.785603 | 1.286008 | 1.150072 | 0.119286 | 1.388906 | 1.775434 | 1.027327 | 0.239694 | 0.478091 | ... | 0.060172 | 0.83441 |
| 72 | 0.658281 | 0.146323 | 0.745634 | 1.583147 | 1.046141 | 1.388906 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 0.876981 | 0.95361 |
| 73 | 0.658281 | 0.785603 | 0.044669 | 1.150072 | 0.916428 | 1.388906 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.044727 | 0.95361 |
| 74 | 0.658281 | 0.785603 | 0.537871 | 1.150072 | 0.916428 | 1.388906 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 0.876981 | 0.95361 |
| 75 | 0.658281 | 0.785603 | 0.745634 | 1.150072 | 1.253735 | 1.241087 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.044727 | 0.95361 |
| 76 | 0.658281 | 0.785603 | 0.044669 | 0.334155 | 1.253735 | 0.058069 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 1.568496 | 0.67401 |
| 77 | 0.658281 | 0.785603 | 1.723267 | 0.400260 | 0.119286 | 1.241087 | 0.815960 | 1.805672 | 1.267007 | 2.091650 | ... | 0.749910 | 0.09691 |
| 78 | 0.658281 | 0.146323 | 0.375338 | 1.150072 | 1.253735 | 1.241087 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 0.425113 | 0.38881 |
| 79 | 0.658281 | 1.835867 | 1.512203 | 0.400260 | 1.046141 | 1.241087 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 0.060172 | 1.54451 |
| 80 | 0.658281 | 0.146323 | 0.745634 | 1.583147 | 1.046141 | 1.241087 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 0.876981 | 0.95361 |
| 81 | 0.658281 | 0.999104 | 1.286008 | 1.150072 | 1.046141 | 1.241087 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.044727 | 0.95361 |
| 82 | 0.658281 | 1.793692 | 0.257505 | 0.400260 | 1.046141 | 1.241087 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 0.876981 | 0.67401 |
| 83 | 0.658281 | 0.146323 | 1.512203 | 0.334155 | 1.046141 | 0.058069 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.576273 | 1.54451 |
| 84 | 0.658281 | 1.793692 | 0.257505 | 1.583147 | 1.046141 | 1.241087 | 0.815960 | 0.480481 | 1.267007 | 0.478091 | ... | 1.044727 | 0.83441 |
| 85 | 0.658281 | 0.999104 | 0.375338 | 0.400260 | 0.916428 | 0.058069 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 1.576273 | 1.54451 |
| 86 | 0.658281 | 0.146323 | 0.375338 | 1.043909 | 0.916428 | 0.058069 | 0.815960 | 1.027327 | 0.239694 | 0.478091 | ... | 1.316093 | 0.20271 |

|     |          |          |          |          |          |          |          |          |          |          |     |          |         |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----|----------|---------|
| 87  | 0.658281 | 1.835867 | 0.375338 | 1.583147 | 1.046141 | 1.241087 | 0.815960 | 0.480481 | 1.165520 | 0.478091 | ... | 1.576273 | 1.54451 |
| 88  | 1.519109 | 0.785603 | 0.537871 | 0.334155 | 1.046141 | 0.058069 | 0.815960 | 0.480481 | 1.267007 | 2.091650 | ... | 0.060172 | 1.22821 |
| 89  | 1.519109 | 0.999104 | 0.745634 | 1.150072 | 0.916428 | 1.241087 | 1.775434 | 1.027327 | 0.239694 | 0.478091 | ... | 0.060172 | 0.83441 |
| 90  | 1.519109 | 0.146323 | 1.049455 | 1.150072 | 0.481020 | 0.058069 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.576273 | 0.51221 |
| 91  | 0.658281 | 0.785603 | 0.745634 | 1.150072 | 1.253735 | 1.241087 | 0.815960 | 1.805672 | 1.267007 | 0.478091 | ... | 0.362307 | 1.17461 |
| 92  | 0.658281 | 0.785603 | 0.044669 | 0.334155 | 1.253735 | 0.058069 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 1.568496 | 0.67401 |
| 93  | 0.658281 | 0.785603 | 1.723267 | 0.400260 | 0.119286 | 1.241087 | 0.815960 | 1.805672 | 1.267007 | 2.091650 | ... | 0.749910 | 0.09691 |
| 94  | 1.519109 | 0.146323 | 1.286008 | 1.150072 | 1.253735 | 1.241087 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 0.425113 | 0.38881 |
| 95  | 0.658281 | 1.835867 | 1.512203 | 0.400260 | 1.046141 | 1.241087 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 0.060172 | 1.54451 |
| 96  | 0.658281 | 0.146323 | 0.745634 | 1.583147 | 1.046141 | 1.241087 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 0.876981 | 0.95361 |
| 97  | 0.658281 | 0.999104 | 1.286008 | 1.150072 | 1.046141 | 1.241087 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.044727 | 0.95361 |
| 98  | 0.658281 | 1.793692 | 0.257505 | 0.400260 | 1.046141 | 1.241087 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 0.876981 | 0.67401 |
| 99  | 0.658281 | 0.146323 | 1.512203 | 0.334155 | 1.046141 | 0.058069 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.576273 | 1.54451 |
| 100 | 0.658281 | 1.793692 | 0.257505 | 1.583147 | 1.046141 | 1.241087 | 0.815960 | 0.480481 | 1.267007 | 0.478091 | ... | 1.044727 | 0.83441 |
| 101 | 0.658281 | 0.999104 | 0.375338 | 0.400260 | 0.916428 | 0.058069 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 1.576273 | 1.54451 |
| 102 | 0.658281 | 0.146323 | 0.375338 | 1.043909 | 0.916428 | 0.058069 | 0.815960 | 1.027327 | 0.239694 | 0.478091 | ... | 1.316093 | 0.20271 |
| 103 | 0.658281 | 1.835867 | 0.375338 | 1.583147 | 1.046141 | 1.241087 | 0.815960 | 0.480481 | 1.165520 | 0.478091 | ... | 1.576273 | 1.54451 |
| 104 | 1.519109 | 0.785603 | 0.537871 | 0.334155 | 1.046141 | 0.058069 | 0.815960 | 0.480481 | 1.267007 | 2.091650 | ... | 0.060172 | 1.22821 |
| 105 | 1.519109 | 0.999104 | 0.745634 | 1.150072 | 0.916428 | 1.241087 | 1.775434 | 1.027327 | 0.239694 | 0.478091 | ... | 0.060172 | 0.83441 |
| 106 | 1.519109 | 0.146323 | 1.049455 | 1.150072 | 0.481020 | 0.058069 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.576273 | 0.51221 |
| 107 | 0.658281 | 1.835867 | 1.512203 | 0.400260 | 1.046141 | 1.241087 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 0.060172 | 1.54451 |
| 108 | 0.658281 | 0.146323 | 1.286008 | 1.150072 | 1.253735 | 1.241087 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 0.425113 | 0.38881 |
| 109 | 1.519109 | 0.146323 | 1.049455 | 1.150072 | 0.481020 | 0.058069 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.576273 | 0.51221 |
| 110 | 0.658281 | 0.785603 | 0.044669 | 0.334155 | 1.253735 | 0.058069 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 1.568496 | 0.67401 |
| 111 | 1.519109 | 0.785603 | 0.537871 | 0.334155 | 1.046141 | 0.058069 | 0.815960 | 0.480481 | 1.267007 | 2.091650 | ... | 0.060172 | 1.22821 |
| 112 | 1.519109 | 0.999104 | 0.745634 | 1.150072 | 0.916428 | 1.241087 | 1.775434 | 1.027327 | 0.239694 | 0.478091 | ... | 0.060172 | 0.83441 |
| 113 | 0.658281 | 0.999104 | 1.286008 | 1.150072 | 1.046141 | 1.241087 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.044727 | 0.95361 |
| 114 | 0.658281 | 0.785603 | 1.723267 | 0.400260 | 0.119286 | 1.241087 | 0.815960 | 1.805672 | 1.267007 | 2.091650 | ... | 0.749910 | 0.09691 |
| 115 | 0.658281 | 0.146323 | 0.745634 | 1.583147 | 1.046141 | 1.241087 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 0.876981 | 0.95361 |

|     | 0        | 1        | 2        | 3        | 4        | 5        | 6        | 7        | 8        | 9        | ... | 59       |         |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----|----------|---------|
| 116 | 0.658281 | 0.785603 | 0.745634 | 1.150072 | 1.253735 | 1.241087 | 0.815960 | 1.805672 | 1.267007 | 0.478091 | ... | 0.362307 | 1.17461 |
| 117 | 0.658281 | 1.793692 | 0.257505 | -        | -        | -        | 1.110874 | 1.027327 | -        | -        | ... | -        | 0.6740  |
| 118 | 0.658281 | 0.146323 | -        | 1.150072 | -        | 1.388906 | 1.110874 | 1.027327 | -        | -        | ... | -        | 0.6740  |
| 119 | 0.658281 | 0.999104 | -        | 0.334155 | 0.916428 | 0.058069 | -        | -        | 1.267007 | -        | ... | -        | 1.17461 |
| 120 | 0.658281 | -        | -        | -        | 0.916428 | 0.058069 | 1.110874 | 1.027327 | -        | -        | ... | -        | 0.6740  |
| 121 | 0.658281 | 1.793692 | 0.257505 | -        | -        | -        | 1.110874 | 1.027327 | -        | -        | ... | -        | 0.6740  |
| 122 | 0.658281 | 0.999104 | -        | -        | -        | 0.058069 | -        | -        | 1.267007 | -        | ... | 1.044727 | 0.83441 |
| 123 | 0.658281 | 1.793692 | 0.257505 | -        | -        | -        | -        | -        | 1.267007 | -        | ... | 1.044727 | 0.83441 |
| 124 | 0.658281 | 0.146323 | 0.537871 | -        | 0.916428 | 0.058069 | -        | -        | 1.267007 | 2.091650 | ... | 0.749910 | 0.09691 |
| 125 | 0.658281 | 0.146323 | -        | -        | -        | 0.058069 | 1.110874 | 1.027327 | -        | -        | ... | -        | 0.95361 |
| 126 | 0.658281 | -        | 0.537871 | 1.150072 | 0.916428 | 0.058069 | 1.110874 | 1.027327 | -        | -        | ... | -        | 0.95361 |
| 127 | 0.658281 | -        | -        | -        | -        | -        | -        | -        | 1.267007 | 2.091650 | ... | 0.749910 | 0.09691 |
| 128 | 0.658281 | 0.146323 | -        | -        | -        | -        | 1.110874 | 1.027327 | -        | -        | ... | -        | 0.95361 |
| 129 | 0.658281 | 0.146323 | -        | 1.150072 | 1.253735 | 0.058069 | -        | -        | 1.267007 | 2.091650 | ... | 0.060172 | 1.22821 |
| 130 | 0.658281 | 0.999104 | -        | -        | 1.253735 | 0.058069 | -        | -        | 0.239694 | -        | ... | 1.568496 | 0.6740  |
| 131 | 0.658281 | -        | 0.800828 | 1.150072 | 0.916428 | 0.058069 | -        | -        | 1.267007 | 2.091650 | ... | 0.060172 | 1.22821 |
| 132 | 0.658281 | 0.146323 | -        | -        | 0.916428 | 0.058069 | -        | -        | 0.239694 | -        | ... | 1.568496 | 0.6740  |
| 133 | 0.658281 | -        | -        | 1.150072 | 0.916428 | 0.058069 | 1.110874 | 1.027327 | -        | -        | ... | 1.044727 | 0.95361 |
| 134 | 0.658281 | -        | -        | 1.150072 | 1.253735 | -        | 1.110874 | 1.027327 | -        | -        | ... | 1.044727 | 0.95361 |
| 135 | 0.658281 | -        | 0.044669 | 0.334155 | 1.253735 | 0.058069 | -        | -        | 0.239694 | -        | ... | 1.568496 | 0.6740  |
| 136 | 0.658281 | 0.999104 | 1.286008 | 1.150072 | -        | -        | 1.110874 | 1.027327 | -        | -        | ... | 1.044727 | 0.95361 |
| 137 | 0.658281 | -        | -        | 1.150072 | -        | 0.058069 | -        | 1.027327 | 0.239694 | -        | ... | 1.316093 | 0.20271 |
| 138 | 0.658281 | 0.146323 | -        | -        | 0.916428 | 0.058069 | -        | 1.027327 | 0.239694 | -        | ... | 1.316093 | 0.20271 |
| 139 | 0.658281 | 1.835867 | 0.375338 | -        | -        | -        | -        | -        | -        | -        | ... | -        | 1.54451 |
| 140 | 0.658281 | 0.999104 | -        | 0.334155 | -        | 0.058069 | -        | -        | 0.239694 | -        | ... | 0.425113 | 0.38881 |
| 141 | 0.658281 | 0.146323 | -        | 1.150072 | 1.253735 | -        | -        | -        | 0.239694 | -        | ... | 0.425113 | 0.38881 |
| 142 | 0.658281 | 0.999104 | -        | -        | -        | 0.058069 | 1.110874 | 1.027327 | -        | -        | ... | -        | 1.54451 |
| 143 | 0.658281 | -        | 0.537871 | 1.150072 | -        | 0.058069 | -        | -        | 0.239694 | -        | ... | -        | 1.54451 |

|     |          |          |          |          |          |          |          |          |          |          |     |          |         |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----|----------|---------|
| 144 | 0.658281 | 1.835867 | 1.512203 | 0.400260 | 1.046141 | 1.241087 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 0.060172 | 1.54451 |
| 145 | 0.658281 | 0.146323 | 1.512203 | 0.334155 | 1.046141 | 0.058069 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.576273 | 1.54451 |
| 146 | 0.658281 | 0.999104 | 0.375338 | 0.400260 | 0.916428 | 0.058069 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 1.576273 | 1.54451 |
| 147 | 1.519109 | 0.999104 | 0.745634 | 0.400260 | 1.046141 | 0.058069 | 0.815960 | 1.805672 | 1.267007 | 0.478091 | ... | 0.362307 | 1.17461 |
| 148 | 1.519109 | 1.835867 | 0.745634 | 0.334155 | 1.253735 | 0.058069 | 0.815960 | 1.805672 | 1.267007 | 0.478091 | ... | 0.362307 | 1.17461 |
| 149 | 1.519109 | 0.146323 | 1.286008 | 0.334155 | 1.046141 | 0.058069 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 0.876981 | 0.95361 |
| 150 | 1.519109 | 1.835867 | 1.286008 | 0.400260 | 1.046141 | 0.058069 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 1.568496 | 0.67401 |
| 151 | 1.519109 | 0.146323 | 0.745634 | 1.583147 | 1.046141 | 0.058069 | 0.815960 | 0.480481 | 1.267007 | 2.091650 | ... | 0.060172 | 1.22821 |
| 152 | 1.519109 | 0.785603 | 0.745634 | 0.400260 | 1.253735 | 0.058069 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.044727 | 0.95361 |
| 153 | 1.519109 | 0.999104 | 0.745634 | 0.400260 | 1.046141 | 0.058069 | 0.815960 | 0.480481 | 1.267007 | 2.091650 | ... | 0.060172 | 1.22821 |
| 154 | 1.519109 | 0.785603 | 1.286008 | 1.150072 | 0.119286 | 0.058069 | 1.775434 | 1.027327 | 0.239694 | 0.478091 | ... | 0.060172 | 0.83441 |
| 155 | 1.519109 | 0.785603 | 0.537871 | 0.334155 | 1.046141 | 0.058069 | 0.815960 | 0.480481 | 1.267007 | 2.091650 | ... | 0.060172 | 1.22821 |
| 156 | 1.519109 | 0.999104 | 1.286008 | 1.150072 | 1.046141 | 0.058069 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.576273 | 0.51221 |
| 157 | 1.519109 | 0.146323 | 1.286008 | 0.334155 | 0.481020 | 0.058069 | 0.815960 | 0.480481 | 1.165520 | 0.478091 | ... | 1.576273 | 1.54451 |
| 158 | 1.519109 | 1.793692 | 1.286008 | 0.400260 | 1.253735 | 0.058069 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 0.060172 | 1.54451 |
| 159 | 0.658281 | 0.999104 | 1.723267 | 0.400260 | 1.046141 | 0.058069 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.576273 | 1.54451 |
| 160 | 0.658281 | 0.785603 | 0.537871 | 1.150072 | 1.046141 | 0.058069 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 1.576273 | 1.54451 |
| 161 | 0.658281 | 1.835867 | 1.512203 | 0.400260 | 1.046141 | 1.241087 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 0.060172 | 1.54451 |
| 162 | 0.658281 | 0.146323 | 1.512203 | 0.334155 | 1.046141 | 0.058069 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.576273 | 1.54451 |
| 163 | 0.658281 | 0.999104 | 0.375338 | 0.400260 | 0.916428 | 0.058069 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 1.576273 | 1.54451 |
| 164 | 1.519109 | 1.793692 | 1.286008 | 0.400260 | 1.253735 | 0.058069 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 0.060172 | 1.54451 |
| 165 | 0.658281 | 0.999104 | 1.723267 | 0.334155 | 0.119286 | 0.058069 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 0.425113 | 0.38881 |
| 166 | 0.658281 | 0.146323 | 0.375338 | 1.150072 | 1.253735 | 1.241087 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 0.425113 | 0.38881 |
| 167 | 0.658281 | 0.785603 | 1.723267 | 1.150072 | 1.046141 | 0.058069 | 0.815960 | 1.027327 | 0.239694 | 0.478091 | ... | 1.316093 | 0.20271 |
| 168 | 0.658281 | 0.146323 | 0.375338 | 1.043909 | 0.916428 | 0.058069 | 0.815960 | 1.027327 | 0.239694 | 0.478091 | ... | 1.316093 | 0.20271 |
| 169 | 0.658281 | 1.835867 | 0.375338 | 1.583147 | 1.046141 | 1.241087 | 0.815960 | 0.480481 | 1.165520 | 0.478091 | ... | 1.576273 | 1.54451 |
| 170 | 1.519109 | 0.999104 | 1.286008 | 1.150072 | 1.046141 | 0.058069 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.576273 | 0.51221 |
| 171 | 1.519109 | 0.146323 | 1.286008 | 0.334155 | 0.481020 | 0.058069 | 0.815960 | 0.480481 | 1.165520 | 0.478091 | ... | 1.576273 | 1.54451 |
| 172 | 0.658281 | 0.146323 | 1.150072 | 1.253735 | 0.058069 | 1.267007 | 2.091650 | 0.060172 | 1.22821  |          |     |          |         |



|     | 0        | 1        | 2        | 3        | 4        | 5        | 6        | 7        | 8        | 9        | ... | 59       | (       |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----|----------|---------|
| 173 | 0.658281 | 0.999104 | 0.044669 | 1.583147 | 1.253735 | 0.058069 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 1.568496 | 0.67400 |
| 174 | 0.658281 | 0.785603 | 0.800828 | 1.150072 | 0.916428 | 0.058069 | 0.815960 | 0.480481 | 1.267007 | 2.091650 | ... | 0.060172 | 1.22821 |
| 175 | 0.658281 | 0.146323 | 0.044669 | 0.400260 | 0.916428 | 0.058069 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 1.568496 | 0.67400 |
| 176 | 0.658281 | 0.785603 | 0.044669 | 1.150072 | 0.916428 | 0.058069 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.044727 | 0.95361 |
| 177 | 0.658281 | 0.785603 | 0.745634 | 1.150072 | 1.253735 | 1.241087 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.044727 | 0.95361 |
| 178 | 0.658281 | 0.785603 | 0.044669 | 0.334155 | 1.253735 | 0.058069 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 1.568496 | 0.67400 |
| 179 | 0.658281 | 0.999104 | 1.286008 | 1.150072 | 1.046141 | 1.241087 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.044727 | 0.95361 |
| 180 | 1.519109 | 1.835867 | 1.286008 | 0.400260 | 1.046141 | 0.058069 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 1.568496 | 0.67400 |
| 181 | 1.519109 | 0.146323 | 0.745634 | 1.583147 | 1.046141 | 0.058069 | 0.815960 | 0.480481 | 1.267007 | 2.091650 | ... | 0.060172 | 1.22821 |
| 182 | 1.519109 | 0.785603 | 0.745634 | 0.400260 | 1.253735 | 0.058069 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.044727 | 0.95361 |
| 183 | 1.519109 | 0.999104 | 0.745634 | 0.400260 | 1.046141 | 0.058069 | 0.815960 | 0.480481 | 1.267007 | 2.091650 | ... | 0.060172 | 1.22821 |
| 184 | 1.519109 | 0.785603 | 1.286008 | 1.150072 | 0.119286 | 0.058069 | 1.775434 | 1.027327 | 0.239694 | 0.478091 | ... | 0.060172 | 0.83441 |
| 185 | 1.519109 | 0.785603 | 0.537871 | 0.334155 | 1.046141 | 0.058069 | 0.815960 | 0.480481 | 1.267007 | 2.091650 | ... | 0.060172 | 1.22821 |
| 186 | 0.658281 | 0.146323 | 0.537871 | 1.583147 | 0.916428 | 0.058069 | 0.815960 | 1.805672 | 1.267007 | 2.091650 | ... | 0.749910 | 0.09691 |
| 187 | 0.658281 | 0.146323 | 0.745634 | 1.583147 | 1.046141 | 0.058069 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 0.876981 | 0.95361 |
| 188 | 0.658281 | 0.785603 | 0.537871 | 1.150072 | 0.916428 | 0.058069 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 0.876981 | 0.95361 |
| 189 | 0.658281 | 0.785603 | 1.723267 | 0.400260 | 0.119286 | 1.241087 | 0.815960 | 1.805672 | 1.267007 | 2.091650 | ... | 0.749910 | 0.09691 |
| 190 | 0.658281 | 0.146323 | 0.745634 | 1.583147 | 1.046141 | 1.241087 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 0.876981 | 0.95361 |
| 191 | 1.519109 | 0.146323 | 1.286008 | 0.334155 | 1.046141 | 0.058069 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 0.876981 | 0.95361 |
| 192 | 0.658281 | 0.999104 | 0.044669 | 1.583147 | 1.046141 | 0.058069 | 0.815960 | 0.480481 | 1.267007 | 0.478091 | ... | 1.044727 | 0.83441 |
| 193 | 0.658281 | 1.793692 | 0.257505 | 1.583147 | 1.046141 | 1.241087 | 0.815960 | 0.480481 | 1.267007 | 0.478091 | ... | 1.044727 | 0.83441 |
| 194 | 0.658281 | 0.146323 | 0.044669 | 1.150072 | 0.119286 | 0.058069 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 0.876981 | 0.67400 |
| 195 | 0.658281 | 0.999104 | 1.723267 | 0.334155 | 0.916428 | 0.058069 | 0.815960 | 1.805672 | 1.267007 | 0.478091 | ... | 0.362307 | 1.17461 |
| 196 | 0.658281 | 0.785603 | 0.044669 | 1.583147 | 0.916428 | 0.058069 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 0.876981 | 0.67400 |
| 197 | 0.658281 | 1.793692 | 0.257505 | 0.400260 | 1.046141 | 1.241087 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 0.876981 | 0.67400 |
| 198 | 1.519109 | 0.999104 | 0.745634 | 0.400260 | 1.046141 | 0.058069 | 0.815960 | 1.805672 | 1.267007 | 0.478091 | ... | 0.362307 | 1.17461 |
| 199 | 1.519109 | 1.835867 | 0.745634 | 0.334155 | 1.253735 | 0.058069 | 0.815960 | 1.805672 | 1.267007 | 0.478091 | ... | 0.362307 | 1.17461 |
| 200 | 0.658281 | 1.835867 | 1.512203 | 0.400260 | 1.046141 | 1.241087 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 0.060172 | 1.54451 |

|     | 0        | 1        | 2        | 3        | 4        | 5        | 6        | 7        | 8        | 9        | ... | 59       | 60      |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----|----------|---------|
| 201 | 1.519109 | 0.785603 | 0.537871 | 0.334155 | 1.046141 | 0.058069 | 0.815960 | 0.480481 | 1.267007 | 2.091650 | ... | 0.060172 | 1.22821 |
| 202 | 1.519109 | 0.999104 | 0.745634 | 1.150072 | 0.916428 | 1.241087 | 1.775434 | 1.027327 | 0.239694 | 0.478091 | ... | 0.060172 | 0.83441 |
| 203 | 0.658281 | 1.793692 | 0.257505 | 0.400260 | 1.046141 | 1.241087 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 0.876981 | 0.67401 |
| 204 | 1.519109 | 0.146323 | 1.049455 | 1.150072 | 0.481020 | 0.058069 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.576273 | 0.51221 |
| 205 | 0.658281 | 0.999104 | 1.286008 | 1.150072 | 1.046141 | 1.241087 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.044727 | 0.95361 |
| 206 | 0.658281 | 0.146323 | 0.745634 | 1.583147 | 1.046141 | 1.241087 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 0.876981 | 0.95361 |
| 207 | 0.658281 | 0.785603 | 0.745634 | 1.150072 | 1.253735 | 1.241087 | 0.815960 | 1.805672 | 1.267007 | 0.478091 | ... | 0.362307 | 1.17461 |
| 208 | 0.658281 | 0.146323 | 1.286008 | 1.150072 | 1.253735 | 1.241087 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 0.425113 | 0.38881 |
| 209 | 0.658281 | 0.785603 | 0.044669 | 0.334155 | 1.253735 | 0.058069 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 1.568496 | 0.67401 |
| 210 | 0.658281 | 0.785603 | 1.723267 | 0.400260 | 0.119286 | 1.241087 | 0.815960 | 1.805672 | 1.267007 | 2.091650 | ... | 0.749910 | 0.09691 |
| 211 | 0.658281 | 0.146323 | 0.375338 | 1.043909 | 0.916428 | 0.058069 | 0.815960 | 1.027327 | 0.239694 | 0.478091 | ... | 1.316093 | 0.20271 |
| 212 | 0.658281 | 0.999104 | 1.723267 | 0.400260 | 1.046141 | 0.058069 | 1.110874 | 1.027327 | 1.165520 | 0.478091 | ... | 1.576273 | 1.54451 |
| 213 | 0.658281 | 1.835867 | 1.512203 | 0.400260 | 1.046141 | 1.241087 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 0.060172 | 1.54451 |
| 214 | 0.658281 | 0.999104 | 0.375338 | 0.400260 | 0.916428 | 0.058069 | 0.815960 | 0.480481 | 0.239694 | 0.478091 | ... | 1.576273 | 1.54451 |

215 rows x 69 columns



In [42]:

```
y.value_counts()
```

Out[42]:

```
1.0    51
0.0    48
3.0    30
6.0    27
5.0    20
2.0    15
4.0    13
7.0    11
```

Name: Which of the Indian online retailer would you recommend to a friend?, dtype: int64

In [43]:

```
from imblearn.over_sampling import SMOTE
smt=SMOTE()
x_train1,y_train1=smt.fit_resample(dfx,y)
```

In [44]:

```
y_train1.value_counts()
```

Out[44]:

```
3.0    51
5.0    51
1.0    51
4.0    51
7.0    51
```

```
0.0    51
6.0    51
2.0    51
```

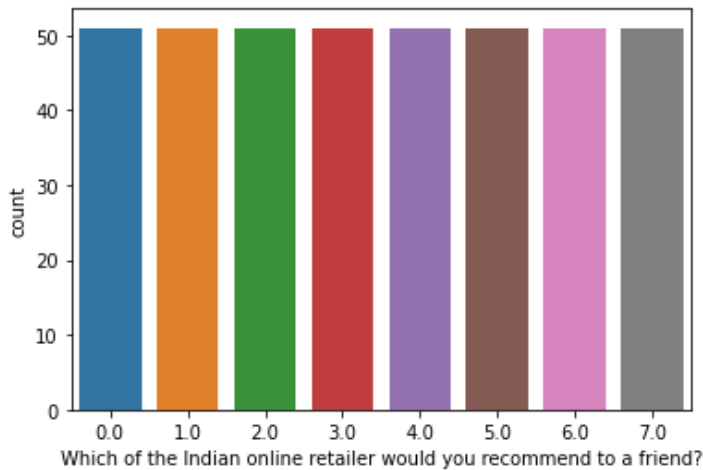
```
Name: Which of the Indian online retailer would you recommend to a friend?, dtype: int64
```

```
In [45]:
```

```
sns.countplot(y_train1)
```

```
Out[45]:
```

```
<AxesSubplot:xlabel='Which of the Indian online retailer would you recommend to a friend?
', ylabel='count'>
```



## TRAINING AND TESTING THE DATA

```
In [46]:
```

```
from sklearn.model_selection import train_test_split
```

## MODEL SELECTION

```
In [47]:
```

```
from sklearn.linear_model import LinearRegression
from sklearn.metrics import r2_score, mean_squared_error, mean_absolute_error
lr = LinearRegression()
```

```
In [48]:
```

```
maxR2S=0
maxR=0
for i in range(0,1000):
    x_train,x_test,y_train,y_test=train_test_split(x_train1,y_train1,test_size=0.20,random_state=i)
    lr.fit(x_train,y_train)
    predlr=lr.predict(x_test)
    score=r2_score(y_test,predlr)
    print('R2_score',score, 'at random_state ',i)
    if score > maxR2S:
        maxR2S=score
        maxR=i
    print('Max r2_score ',maxR2S, 'at random_state ',i)
```

```
R2_score 1.0 at random_state 0
Max r2_score 1.0 at random_state 0
R2_score 1.0 at random_state 1
R2_score 1.0 at random_state 2
R2_score 1.0 at random_state 3
R2_score 1.0 at random_state 4
R2_score 1.0 at random_state 5
R2_score 1.0 at random_state 6
```

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]



[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]



```
R2_score 1.0 at random_state 943
R2_score 1.0 at random_state 944
R2_score 1.0 at random_state 945
R2_score 1.0 at random_state 946
R2_score 1.0 at random_state 947
R2_score 1.0 at random_state 948
R2_score 1.0 at random_state 949
R2_score 1.0 at random_state 950
R2_score 1.0 at random_state 951
R2_score 1.0 at random_state 952
R2_score 1.0 at random_state 953
R2_score 1.0 at random_state 954
R2_score 1.0 at random_state 955
R2_score 1.0 at random_state 956
R2_score 1.0 at random_state 957
R2_score 1.0 at random_state 958
R2_score 1.0 at random_state 959
R2_score 1.0 at random_state 960
R2_score 1.0 at random_state 961
R2_score 1.0 at random_state 962
R2_score 1.0 at random_state 963
R2_score 1.0 at random_state 964
R2_score 1.0 at random_state 965
R2_score 1.0 at random_state 966
R2_score 1.0 at random_state 967
R2_score 1.0 at random_state 968
R2_score 1.0 at random_state 969
R2_score 1.0 at random_state 970
R2_score 1.0 at random_state 971
R2_score 1.0 at random_state 972
R2_score 1.0 at random_state 973
R2_score 1.0 at random_state 974
R2_score 1.0 at random_state 975
R2_score 1.0 at random_state 976
R2_score 1.0 at random_state 977
R2_score 1.0 at random_state 978
R2_score 1.0 at random_state 979
R2_score 1.0 at random_state 980
R2_score 1.0 at random_state 981
R2_score 1.0 at random_state 982
R2_score 1.0 at random_state 983
R2_score 1.0 at random_state 984
R2_score 1.0 at random_state 985
R2_score 1.0 at random_state 986
R2_score 1.0 at random_state 987
R2_score 1.0 at random_state 988
R2_score 1.0 at random_state 989
R2_score 1.0 at random_state 990
R2_score 1.0 at random_state 991
R2_score 1.0 at random_state 992
R2_score 1.0 at random_state 993
R2_score 1.0 at random_state 994
R2_score 1.0 at random_state 995
R2_score 1.0 at random_state 996
R2_score 1.0 at random_state 997
R2_score 1.0 at random_state 998
R2_score 1.0 at random_state 999
```

In [49]:

```
x_train,x_test,y_train,y_test=train_test_split(x_train1,y_train1,test_size=0.20) #at default random_size as all values is the same at all random_state
lr.fit(x_train,y_train)
```

Out[49]:

▼ LinearRegression

LinearRegression()

**PREDICTION**

# PREDICTION

In [50]:

```
predlr=lr.predict(x_test)
score=r2_score(y_test,predlr)
print('Best r2_score ',score*100,'of model ',lr)
```

Best r2\_score 100.0 of model LinearRegression()

## SAVING THE BEST MODEL

In [51]:

```
import pickle
filename='customer_retention_dataset.pkl'
pickle.dump(lr,open(filename,'wb'))
```

## DISPLAYING THE BEST MODEL

In [52]:

```
best_model=pickle.load(open(filename,'rb'))
best_model
```

Out[52]:

```
▼ LinearRegression
LinearRegression()
```

In [ ]: