# DBC_Final_Gender

December 20, 2018

This project was completed by insert full name here in partial fulfilment of ECON-UB.0232, Data Bootcamp, Spring 2018. I certify that the NYU Stern Honor Code applies to this project. In particular, I have: Clearly acknowledged the work and efforts of others when submitting written work as our own. The incorporation of the work of others–including but not limited to their ideas, data, creative expression, and direct quotations (which should be designated with quotation marks), or paraphrasing thereof– has been fully and appropriately referenced using notations both in the text and the bibliography. And I understand that: Submitting the same or substantially similar work in multiple courses, either in the same semester or in a different semester, without the express approval of all instructors is strictly forbidden. I acknowledge that a failure to abide by NYU Stern Honor Code will result in a failing grade for the project and course. With this project we have executed a study of citibank through the study of demographics, mainly age and gender. We have come to the conclusion that citibike should mainly focus on marketing their program to males between the ages of 18-30 and 60-80 given that these users experience the highest average cost per minute from riding. If Citi Bike attracts customers who use the program least, they will be able to spread their assets amonst more customers. Unfortunately, we were unable to provide significant correlations between variables in our data and a further investigation with a larger dataset should be done to prove our conclusions.

```
In [1]: import pandas as pd
        import matplotlib.pyplot as plt
        import numpy as np
        import statsmodels.formula.api as smf
        %matplotlib inline

In [2]: citi = pd.read_csv('/Users/MartinSmit/Documents/NYUAD/Junior/Data Bootcamp/Final/CitiF

In [3]: del citi['Unnamed: 0']
        citi=citi[citi['Age']<91]

In [4]: citi

Out[4]:          tripduration            starttime             stoptime  \
        0                1346       1/1/2015 0:01       1/1/2015 0:24
        1                 363       1/1/2015 0:02       1/1/2015 0:08
        2                 346       1/1/2015 0:04       1/1/2015 0:10
        3                 182       1/1/2015 0:04       1/1/2015 0:07
        4                 969       1/1/2015 0:05       1/1/2015 0:21
        5                 496       1/1/2015 0:07       1/1/2015 0:15
```

| | | | |
|---|---|---|---|
| 6 | 152 | 1/1/2015 0:07 | 1/1/2015 0:09 |
| 7 | 1183 | 1/1/2015 0:08 | 1/1/2015 0:28 |
| 8 | 846 | 1/1/2015 0:09 | 1/1/2015 0:23 |
| 9 | 576 | 1/1/2015 0:10 | 1/1/2015 0:20 |
| 10 | 540 | 1/1/2015 0:10 | 1/1/2015 0:19 |
| 11 | 419 | 1/1/2015 0:11 | 1/1/2015 0:18 |
| 12 | 751 | 1/1/2015 0:13 | 1/1/2015 0:25 |
| 13 | 332 | 1/1/2015 0:13 | 1/1/2015 0:18 |
| 14 | 1099 | 1/1/2015 0:14 | 1/1/2015 0:32 |
| 15 | 649 | 1/1/2015 0:14 | 1/1/2015 0:25 |
| 16 | 614 | 1/1/2015 0:14 | 1/1/2015 0:24 |
| 17 | 1196 | 1/1/2015 0:16 | 1/1/2015 0:36 |
| 18 | 1426 | 1/1/2015 0:17 | 1/1/2015 0:40 |
| 19 | 1262 | 1/1/2015 0:18 | 1/1/2015 0:39 |
| 20 | 707 | 1/1/2015 0:18 | 1/1/2015 0:30 |
| 21 | 307 | 1/1/2015 0:18 | 1/1/2015 0:23 |
| 22 | 1053 | 1/1/2015 0:19 | 1/1/2015 0:37 |
| 23 | 446 | 1/1/2015 0:20 | 1/1/2015 0:27 |
| 25 | 797 | 1/1/2015 0:21 | 1/1/2015 0:35 |
| 27 | 1639 | 1/1/2015 0:22 | 1/1/2015 0:49 |
| 29 | 470 | 1/1/2015 0:22 | 1/1/2015 0:30 |
| 30 | 321 | 1/1/2015 0:23 | 1/1/2015 0:29 |
| 31 | 259 | 1/1/2015 0:23 | 1/1/2015 0:27 |
| 32 | 81 | 1/1/2015 0:23 | 1/1/2015 0:24 |
| ... | ... | ... | ... |
| 3942431 | 384 | 10/31/2015 23:57:28 | 11/1/2015 00:03:53 |
| 3942432 | 204 | 10/31/2015 23:57:30 | 11/1/2015 00:00:55 |
| 3942433 | 424 | 10/31/2015 23:57:31 | 11/1/2015 00:04:36 |
| 3942434 | 573 | 10/31/2015 23:57:34 | 11/1/2015 00:07:07 |
| 3942436 | 495 | 10/31/2015 23:57:42 | 11/1/2015 00:05:57 |
| 3942437 | 371 | 10/31/2015 23:57:47 | 11/1/2015 00:03:58 |
| 3942438 | 529 | 10/31/2015 23:57:46 | 11/1/2015 00:06:36 |
| 3942439 | 680 | 10/31/2015 23:57:52 | 11/1/2015 00:09:13 |
| 3942440 | 302 | 10/31/2015 23:57:51 | 11/1/2015 00:02:54 |
| 3942442 | 267 | 10/31/2015 23:57:57 | 11/1/2015 00:02:24 |
| 3942443 | 704 | 10/31/2015 23:58:00 | 11/1/2015 00:09:45 |
| 3942444 | 1127 | 10/31/2015 23:58:01 | 11/1/2015 00:16:49 |
| 3942445 | 288 | 10/31/2015 23:58:01 | 11/1/2015 00:02:50 |
| 3942446 | 474 | 10/31/2015 23:58:06 | 11/1/2015 00:06:00 |
| 3942447 | 292 | 10/31/2015 23:58:10 | 11/1/2015 00:03:03 |
| 3942448 | 470 | 10/31/2015 23:58:17 | 11/1/2015 00:06:07 |
| 3942449 | 320 | 10/31/2015 23:58:19 | 11/1/2015 00:03:40 |
| 3942450 | 710 | 10/31/2015 23:58:23 | 11/1/2015 00:10:14 |
| 3942451 | 513 | 10/31/2015 23:58:39 | 11/1/2015 00:07:12 |
| 3942452 | 883 | 10/31/2015 23:58:56 | 11/1/2015 00:13:40 |
| 3942454 | 194 | 10/31/2015 23:58:59 | 11/1/2015 00:02:13 |
| 3942459 | 1041 | 10/31/2015 23:59:12 | 11/1/2015 00:16:33 |
| 3942461 | 548 | 10/31/2015 23:59:26 | 11/1/2015 00:08:35 |

```
3942463          1621  10/31/2015 23:59:36  11/1/2015 00:26:38
3942464           341  10/31/2015 23:59:44  11/1/2015 00:05:25
3942465          1924  10/31/2015 23:59:46  11/1/2015 00:31:50
3942466           711  10/31/2015 23:59:50  11/1/2015 00:11:42
3942467           621  10/31/2015 23:59:54  11/1/2015 00:10:15
3942468           632  10/31/2015 23:59:56  11/1/2015 00:10:29
3942469           807  10/31/2015 23:59:57  11/1/2015 00:13:24

         start station latitude  start station longitude  \
0                     40.750020               -73.969053
1                     40.743174               -74.003664
2                     40.740964               -73.986022
3                     40.683178               -73.965964
4                     40.745168               -73.986831
5                     40.750073               -73.998393
6                     40.748549               -73.988084
7                     40.739323               -74.008119
8                     40.762272               -73.987882
9                     40.748238               -73.978311
10                    40.713126               -73.984844
11                    40.751581               -73.977910
12                    40.760203               -73.964785
13                    40.716059               -73.991908
14                    40.724537               -73.981854
15                    40.756458               -73.993722
16                    40.734546               -73.990741
17                    40.743954               -73.991449
18                    40.707179               -74.008873
19                    40.750380               -73.983390
20                    40.764618               -73.987895
21                    40.745168               -73.986831
22                    40.753231               -73.970325
23                    40.757148               -73.972078
25                    40.768254               -73.988639
27                    40.734927               -73.992005
29                    40.688226               -73.979382
30                    40.734546               -73.990741
31                    40.734546               -73.990741
32                    40.715816               -73.994224
...                         ...                      ...
3942431               40.730477               -73.999061
3942432               40.745712               -73.981948
3942433               40.737262               -73.992390
3942434               40.730477               -73.999061
3942436               40.741444               -73.975361
3942437               40.730473               -73.986724
3942438               40.723684               -73.975748
3942439               40.719105               -73.999733
```

| | | |
|---|---|---|
| 3942440 | 40.726281 | -73.989780 |
| 3942442 | 40.715143 | -73.944507 |
| 3942443 | 40.750967 | -73.994442 |
| 3942444 | 40.742065 | -74.004432 |
| 3942445 | 40.726281 | -73.989780 |
| 3942446 | 40.750967 | -73.994442 |
| 3942447 | 40.726281 | -73.989780 |
| 3942448 | 40.750967 | -73.994442 |
| 3942449 | 40.742388 | -73.997262 |
| 3942450 | 40.728419 | -73.987140 |
| 3942451 | 40.707678 | -73.940162 |
| 3942452 | 40.727434 | -73.993790 |
| 3942454 | 40.732219 | -73.981656 |
| 3942459 | 40.750200 | -73.990931 |
| 3942461 | 40.749156 | -73.991600 |
| 3942463 | 40.734546 | -73.990741 |
| 3942464 | 40.751551 | -73.993934 |
| 3942465 | 40.748549 | -73.988084 |
| 3942466 | 40.724910 | -74.001547 |
| 3942467 | 40.730473 | -73.986724 |
| 3942468 | 40.730473 | -73.986724 |
| 3942469 | 40.765265 | -73.981923 |

| | end station latitude | end station longitude | bikeid | birth year | \ |
|---|---|---|---|---|---|
| 0 | 40.722293 | -73.991475 | 18660 | 1960.0 | |
| 1 | 40.739355 | -73.999318 | 16085 | 1963.0 | |
| 2 | 40.749013 | -73.988484 | 20845 | 1974.0 | |
| 3 | 40.688515 | -73.964763 | 19610 | 1969.0 | |
| 4 | 40.726218 | -73.983799 | 20197 | 1977.0 | |
| 5 | 40.735238 | -74.000271 | 20788 | 1969.0 | |
| 6 | 40.745168 | -73.986831 | 19006 | 1972.0 | |
| 7 | 40.738177 | -73.977387 | 17640 | 1985.0 | |
| 8 | 40.756458 | -73.993722 | 15691 | 1991.0 | |
| 9 | 40.738177 | -73.977387 | 17837 | 1991.0 | |
| 10 | 40.721816 | -73.997203 | 16947 | 1979.0 | |
| 11 | 40.741473 | -73.983209 | 14807 | 1980.0 | |
| 12 | 40.739126 | -73.979738 | 16702 | 1987.0 | |
| 13 | 40.727791 | -73.985649 | 17342 | 1988.0 | |
| 14 | 40.739445 | -73.976806 | 19909 | 1983.0 | |
| 15 | 40.743174 | -74.003664 | 19584 | 1979.0 | |
| 16 | 40.722055 | -73.989111 | 19202 | 1959.0 | |
| 17 | 40.754557 | -73.965930 | 20683 | 1971.0 | |
| 18 | 40.697601 | -73.993446 | 21554 | 1977.0 | |
| 19 | 40.723180 | -73.994800 | 16894 | 1980.0 | |
| 20 | 40.745497 | -74.001971 | 14598 | 1972.0 | |
| 21 | 40.743943 | -73.979661 | 18834 | 1962.0 | |
| 22 | 40.754666 | -73.991382 | 15617 | 1987.0 | |
| 23 | 40.747804 | -73.973442 | 15812 | 1988.0 | |

| | | | | |
|---|---|---|---|---|
| 25 | 40.756458 | -73.993722 | 16761 | 1969.0 |
| 27 | 40.763406 | -73.977225 | 18320 | 1996.0 |
| 29 | 40.693083 | -73.971789 | 20804 | 1986.0 |
| 30 | 40.739017 | -74.002638 | 15777 | 1986.0 |
| 31 | 40.739017 | -74.002638 | 21338 | 1986.0 |
| 32 | 40.714067 | -73.992939 | 20781 | 1982.0 |
| ... | ... | ... | ... | ... |
| 3942431 | 40.733320 | -73.995101 | 18778 | 1978.0 |
| 3942432 | 40.748238 | -73.978311 | 15163 | 1988.0 |
| 3942433 | 40.730477 | -73.999061 | 19062 | 1981.0 |
| 3942434 | 40.722055 | -73.989111 | 22597 | 1987.0 |
| 3942436 | 40.745168 | -73.986831 | 21287 | 1960.0 |
| 3942437 | 40.732219 | -73.981656 | 22923 | 1994.0 |
| 3942438 | 40.738177 | -73.977387 | 23153 | 1987.0 |
| 3942439 | 40.720196 | -73.989978 | 18911 | 1990.0 |
| 3942440 | 40.729538 | -73.984267 | 23705 | 1982.0 |
| 3942442 | 40.723250 | -73.943080 | 24078 | 1982.0 |
| 3942443 | 40.739355 | -73.999318 | 23197 | 1967.0 |
| 3942444 | 40.725029 | -73.990697 | 17391 | 1983.0 |
| 3942445 | 40.729538 | -73.984267 | 22171 | 1982.0 |
| 3942446 | 40.762272 | -73.987882 | 23482 | 1978.0 |
| 3942447 | 40.729538 | -73.984267 | 22120 | 1983.0 |
| 3942448 | 40.762272 | -73.987882 | 18211 | 1980.0 |
| 3942449 | 40.735354 | -74.004831 | 22527 | 1979.0 |
| 3942450 | 40.720828 | -73.977932 | 24230 | 1963.0 |
| 3942451 | 40.714133 | -73.952344 | 22115 | 1980.0 |
| 3942452 | 40.713079 | -73.998512 | 17554 | 1995.0 |
| 3942454 | 40.733143 | -73.975739 | 23553 | 1982.0 |
| 3942459 | 40.734546 | -73.990741 | 18253 | 1959.0 |
| 3942461 | 40.744449 | -73.983035 | 16859 | 1962.0 |
| 3942463 | 40.766638 | -73.953483 | 21038 | 1976.0 |
| 3942464 | 40.759291 | -73.988597 | 15238 | 1971.0 |
| 3942465 | 40.718939 | -73.992663 | 17292 | 1960.0 |
| 3942466 | 40.716059 | -73.991908 | 23374 | 1982.0 |
| 3942467 | 40.724910 | -74.001547 | 23503 | 1990.0 |
| 3942468 | 40.724910 | -74.001547 | 22104 | 1980.0 |
| 3942469 | 40.744876 | -73.995299 | 14597 | 1967.0 |

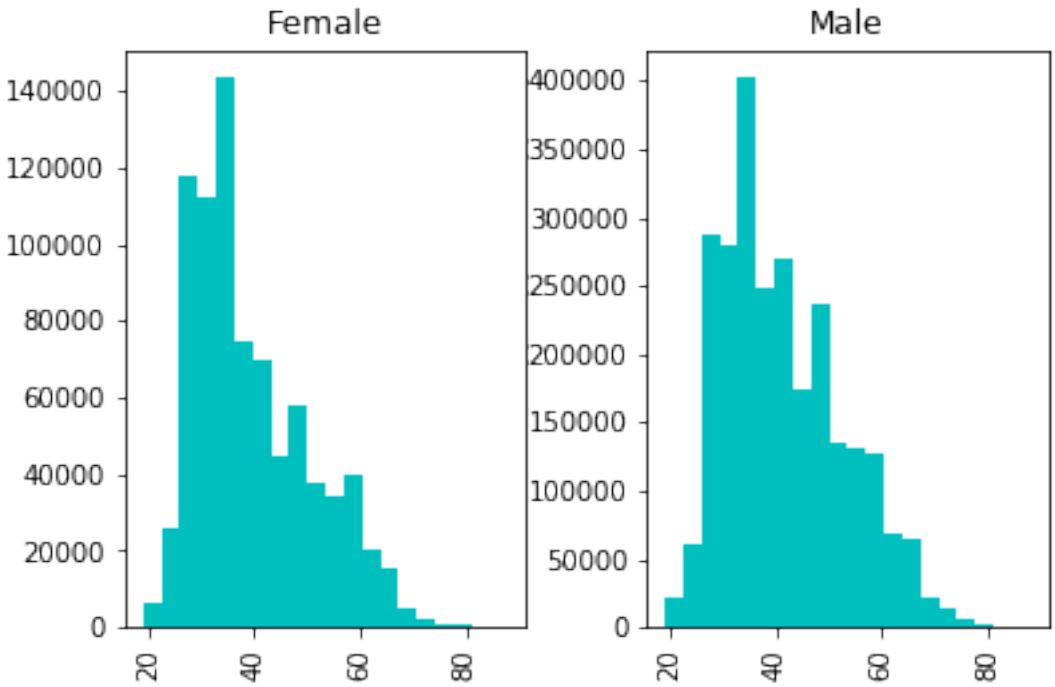
| | gender | Age | Gender |
|---|---|---|---|
| 0 | 2 | 58.0 | Female |
| 1 | 1 | 55.0 | Male |
| 2 | 1 | 44.0 | Male |
| 3 | 1 | 49.0 | Male |
| 4 | 1 | 41.0 | Male |
| 5 | 2 | 49.0 | Female |
| 6 | 1 | 46.0 | Male |
| 7 | 2 | 33.0 | Female |
| 8 | 1 | 27.0 | Male |

| | | | |
|---|---|---|---|
| 9 | 1 | 27.0 | Male |
| 10 | 1 | 39.0 | Male |
| 11 | 1 | 38.0 | Male |
| 12 | 1 | 31.0 | Male |
| 13 | 1 | 30.0 | Male |
| 14 | 1 | 35.0 | Male |
| 15 | 1 | 39.0 | Male |
| 16 | 1 | 59.0 | Male |
| 17 | 1 | 47.0 | Male |
| 18 | 1 | 41.0 | Male |
| 19 | 1 | 38.0 | Male |
| 20 | 1 | 46.0 | Male |
| 21 | 1 | 56.0 | Male |
| 22 | 1 | 31.0 | Male |
| 23 | 1 | 30.0 | Male |
| 25 | 1 | 49.0 | Male |
| 27 | 2 | 22.0 | Female |
| 29 | 1 | 32.0 | Male |
| 30 | 1 | 32.0 | Male |
| 31 | 1 | 32.0 | Male |
| 32 | 1 | 36.0 | Male |
| ... | ... | ... | ... |
| 3942431 | 1 | 40.0 | Male |
| 3942432 | 1 | 30.0 | Male |
| 3942433 | 1 | 37.0 | Male |
| 3942434 | 1 | 31.0 | Male |
| 3942436 | 1 | 58.0 | Male |
| 3942437 | 2 | 24.0 | Female |
| 3942438 | 1 | 31.0 | Male |
| 3942439 | 2 | 28.0 | Female |
| 3942440 | 1 | 36.0 | Male |
| 3942442 | 1 | 36.0 | Male |
| 3942443 | 1 | 51.0 | Male |
| 3942444 | 2 | 35.0 | Female |
| 3942445 | 2 | 36.0 | Female |
| 3942446 | 1 | 40.0 | Male |
| 3942447 | 2 | 35.0 | Female |
| 3942448 | 2 | 38.0 | Female |
| 3942449 | 1 | 39.0 | Male |
| 3942450 | 1 | 55.0 | Male |
| 3942451 | 1 | 38.0 | Male |
| 3942452 | 1 | 23.0 | Male |
| 3942454 | 2 | 36.0 | Female |
| 3942459 | 1 | 59.0 | Male |
| 3942461 | 1 | 56.0 | Male |
| 3942463 | 1 | 42.0 | Male |
| 3942464 | 1 | 47.0 | Male |
| 3942465 | 1 | 58.0 | Male |

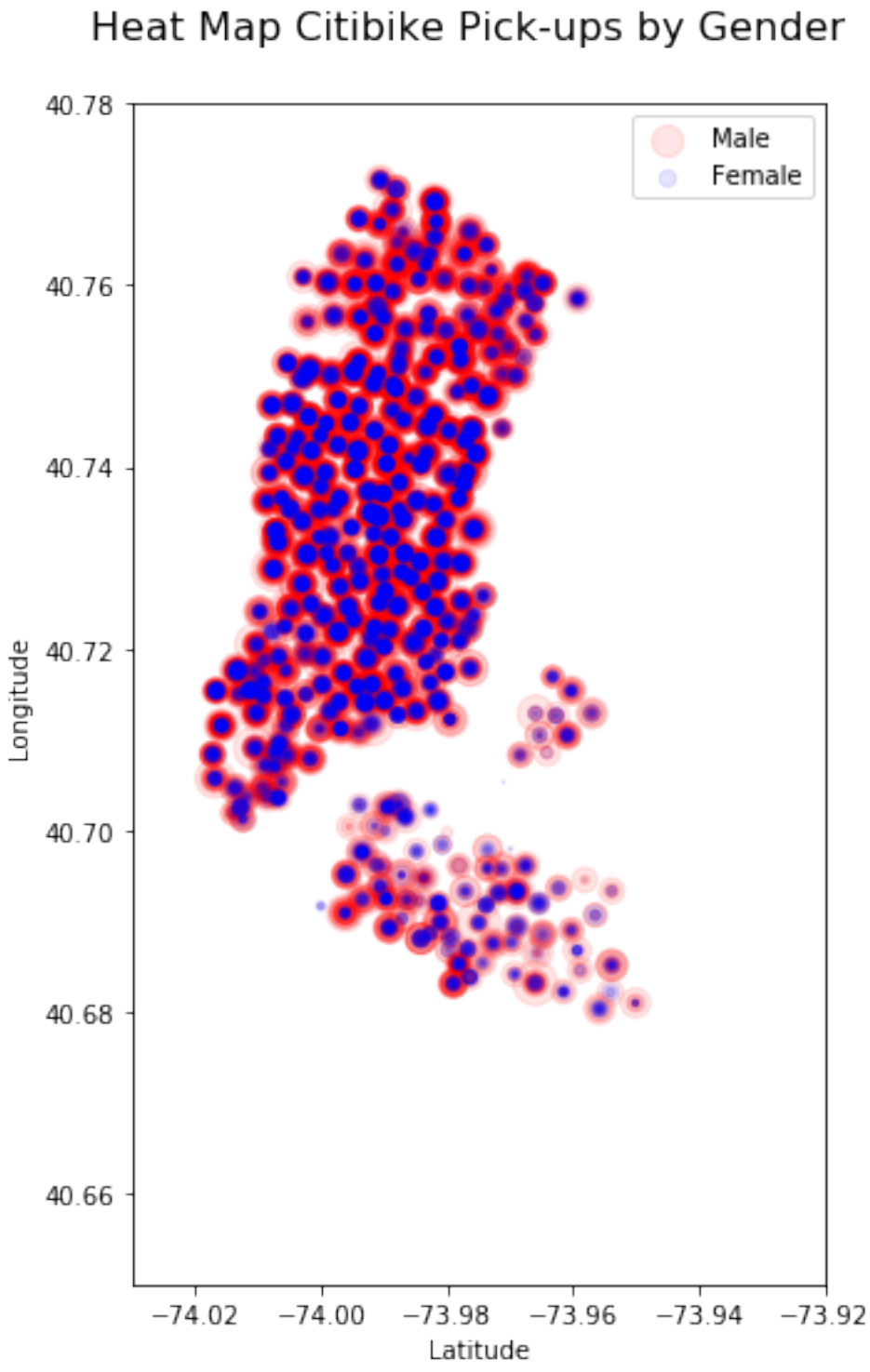
```
3942466       1  36.0    Male
3942467       1  28.0    Male
3942468       2  38.0  Female
3942469       1  51.0    Male

[3372554 rows x 12 columns]
```

```
In [5]: citi.hist('Age', by='Gender', bins=20, color='c')
```

```
Out[5]: array([<matplotlib.axes._subplots.AxesSubplot object at 0x1a486a66a0>,
               <matplotlib.axes._subplots.AxesSubplot object at 0x10ea44710>],
              dtype=object)
```



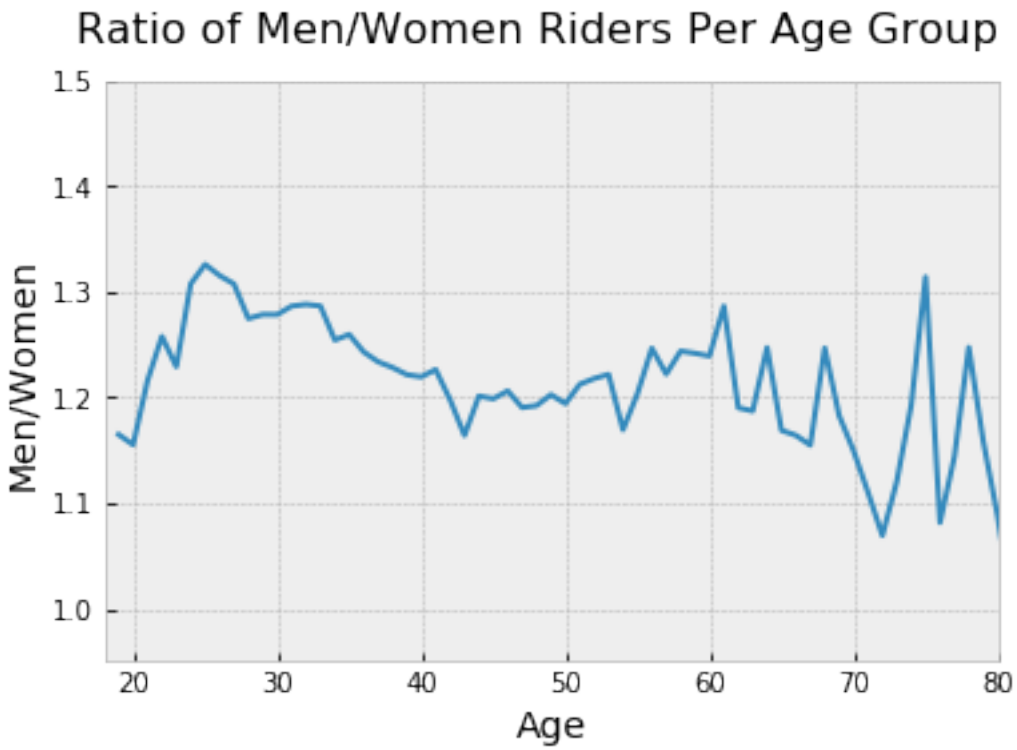

```
In [6]: citi_male = citi[citi['Gender']=='Male']
        citi_female = citi[citi['Gender']=='Female']
        plt.figure(figsize=(5,5*1.75))
        plt.scatter(citi_male['start station longitude'][:10000],citi_male['start station lati
        plt.scatter(citi_female['start station longitude'][:10000],citi_female['start station
        plt.axis([-74.03,-73.92,40.65,40.78])
        plt.xlabel('Latitude')
        plt.legend()
        plt.ylabel('Longitude')
        plt.suptitle('Heat Map Citibike Pick-ups by Gender', size=16, y=0.94)
        plt.style.use('bmh')
        plt.show()
```



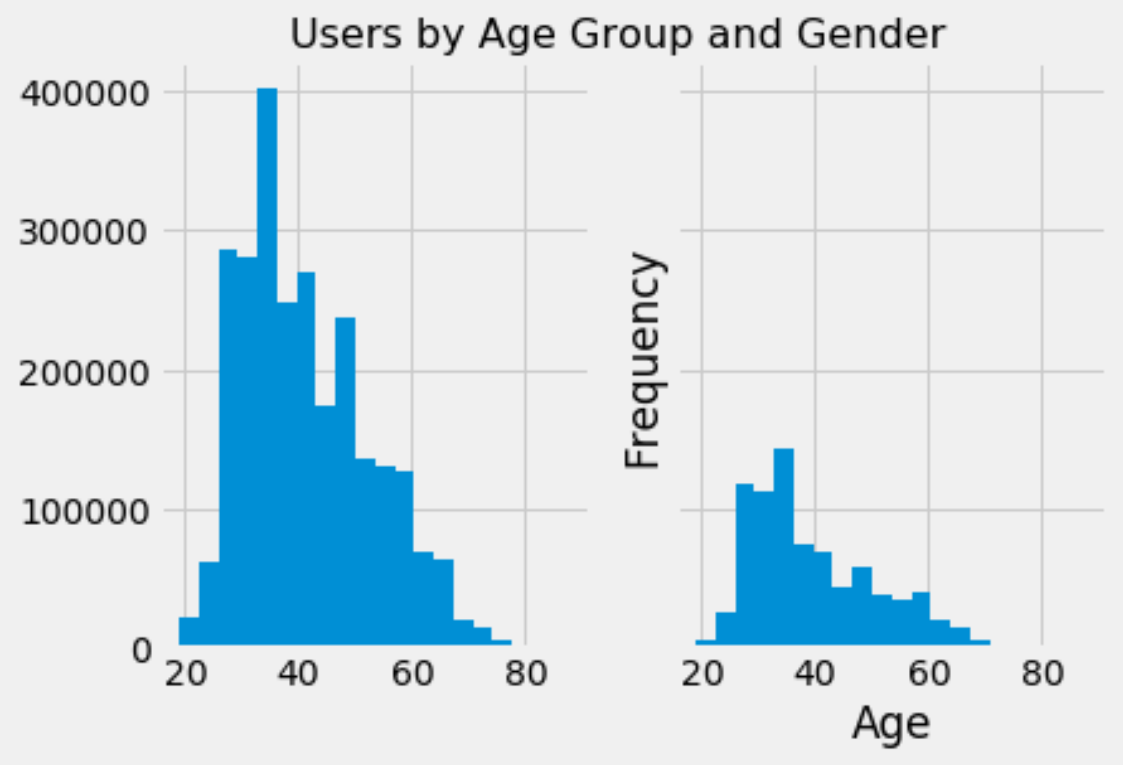

```
In [7]: plt.plot(citi.groupby('Age')['gender'].mean())
        plt.axis([18, 80,0.95,1.5])
        plt.style.use('fivethirtyeight')
```

```
plt.xlabel('Age', size=14)
plt.ylabel('Men/Women', size=14)
plt.suptitle('Ratio of Men/Women Riders Per Age Group', size=16, y=0.97)
```

Out[7]: Text(0.5,0.97,'Ratio of Men/Women Riders Per Age Group')




In [8]:
```
x=citi_female['Age']
y=citi_male['Age']

fig, ax = plt.subplots(1, 2, sharey=True)
n_bins=20
plt.xlabel('Age')
plt.ylabel('Frequency')

ax[0].hist(y, bins=n_bins)
ax[1].hist(x, bins=n_bins)
plt.suptitle('Users by Age Group and Gender', size=16, y=0.94)
plt.show()
```




```
In [9]: citi_gender=pd.DataFrame()
        citi_gender['sum_duration']=citi.groupby(['Gender']).tripduration.sum()
        citi_gender['count']=citi.groupby(['Gender']).size()
        citi_gender['duration_capita']=citi_gender['sum_duration']/citi_gender['count']*(len(c
        citi_gender['cost_capita']=37.25/citi_gender['duration_capita']*60
        citi_gender.reset_index(level=0,inplace=True)
        citi_gender['Gender2']=citi_gender['Gender'].map({'Male':1,'Female':0})
        # citi_gender['count']=citi.groupby(['Gender'])['tripduration'].count()
        citi_gender
```

Out[9]:

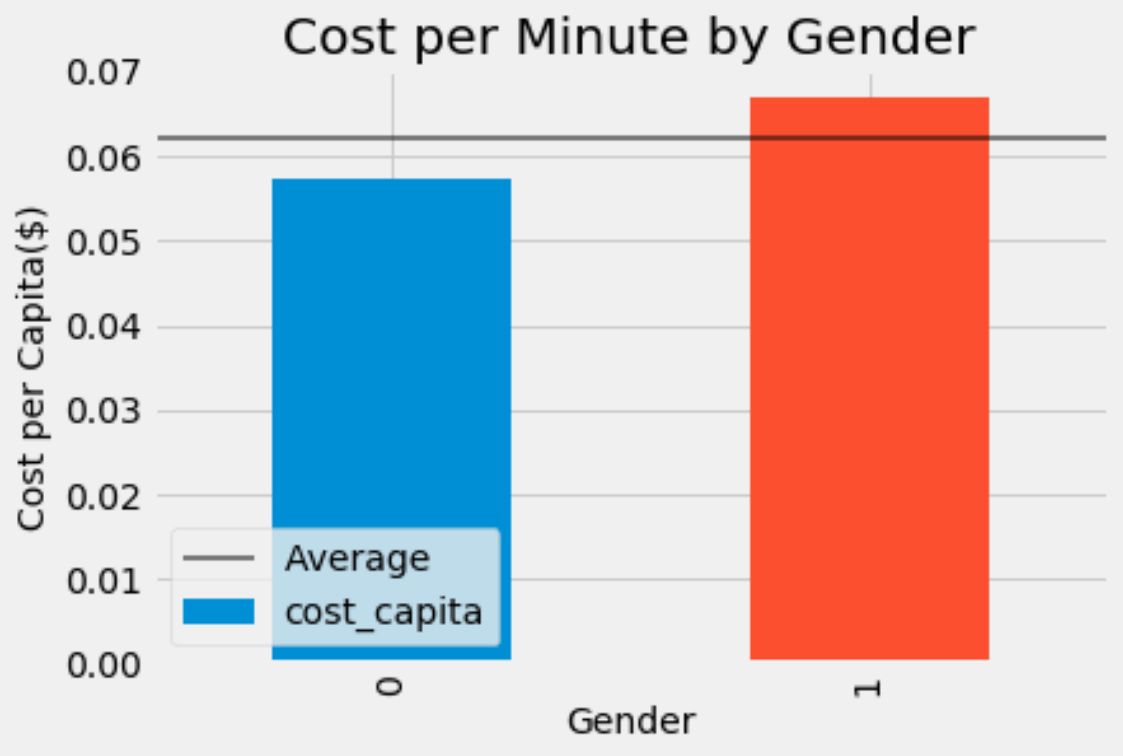
| | Gender | sum_duration | count | duration_capita | cost_capita | Gender2 |
|---|---|---|---|---|---|---|
| 0 | Female | 670605848 | 811170 | 39033.707008 | 0.057258 | 0 |
| 1 | Male | 1809229479 | 2556766 | 33410.810800 | 0.066895 | 1 |

```
In [10]: citi_gender.shape
```

Out[10]: (2, 6)

```
In [11]: fig1, ax1=plt.subplots()
         citi_gender['cost_capita'].plot(ax=ax1,kind='bar')
         plt.axhline(citi_gender['cost_capita'].mean(),linewidth=2.0,color='black',alpha=0.5, l
         plt.legend()
         plt.title('Cost per Minute by Gender')
         plt.xlabel('Gender', size=14)
         plt.ylabel('Cost per Capita($)', size=14)
```

Out[11]: Text(0,0.5,'Cost per Capita($)')




In [12]: print(smf.ols('cost_capita ~ Gender2',data=citi_gender).fit().summary())

OLS Regression Results

| | | | |
|---|---|---|---|
| Dep. Variable: | cost_capita | R-squared: | 1.000 |
| Model: | OLS | Adj. R-squared: | nan |
| Method: | Least Squares | F-statistic: | 0.000 |
| Date: | Thu, 20 Dec 2018 | Prob (F-statistic): | nan |
| Time: | 18:25:08 | Log-Likelihood: | 75.265 |
| No. Observations: | 2 | AIC: | -146.5 |
| Df Residuals: | 0 | BIC: | -149.1 |
| Df Model: | 1 | | |
| Covariance Type: | nonrobust | | |

| | coef | std err | t | P>\|t\| | [0.025 | 0.975] |
|---|---|---|---|---|---|---|
| Intercept | 0.0573 | inf | 0 | nan | nan | nan |
| Gender2 | 0.0096 | inf | 0 | nan | nan | nan |

| | | | |
|---|---|---|---|
| Omnibus: | nan | Durbin-Watson: | 0.200 |
| Prob(Omnibus): | nan | Jarque-Bera (JB): | 0.333 |

```
Skew:                          0.000   Prob(JB):                         0.846
Kurtosis:                      1.000   Cond. No.                          2.62
==============================================================================

Warnings:
[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.


/Users/MartinSmit/anaconda3/lib/python3.6/site-packages/statsmodels/stats/stattools.py:72: Valu
  "samples were given." % int(n), ValueWarning)
/Users/MartinSmit/anaconda3/lib/python3.6/site-packages/statsmodels/regression/linear_model.py
  return 1 - np.divide(self.nobs - self.k_constant, self.df_resid) * (1 - self.rsquared)
/Users/MartinSmit/anaconda3/lib/python3.6/site-packages/statsmodels/regression/linear_model.py
  return 1 - np.divide(self.nobs - self.k_constant, self.df_resid) * (1 - self.rsquared)
/Users/MartinSmit/anaconda3/lib/python3.6/site-packages/statsmodels/regression/linear_model.py
  return self.ssr/self.df_resid
/Users/MartinSmit/anaconda3/lib/python3.6/site-packages/statsmodels/regression/linear_model.py
  return np.dot(wresid, wresid) / self.df_resid
```

```
In [13]: print(smf.ols('tripduration ~ Age + gender',data=citi).fit().summary())
```

```
                            OLS Regression Results
==============================================================================
Dep. Variable:           tripduration   R-squared:                       0.011
Model:                            OLS   Adj. R-squared:                  0.011
Method:                 Least Squares   F-statistic:                 1.927e+04
Date:                Thu, 20 Dec 2018   Prob (F-statistic):               0.00
Time:                        18:25:10   Log-Likelihood:            -2.6006e+07
No. Observations:             3372554   AIC:                         5.201e+07
Df Residuals:                 3372551   BIC:                         5.201e+07
Df Model:                           2
Covariance Type:            nonrobust
==============================================================================
                 coef    std err          t      P>|t|      [0.025      0.975]
------------------------------------------------------------------------------
Intercept    483.6462      1.434    337.383      0.000     480.837     486.456
Age            2.4898      0.026     96.298      0.000       2.439       2.540
gender       121.5974      0.686    177.197      0.000     120.252     122.942
==============================================================================
Omnibus:                  1883764.503   Durbin-Watson:                   1.916
Prob(Omnibus):                  0.000   Jarque-Bera (JB):         24671729.627
Skew:                           2.431   Prob(JB):                         0.00
Kurtosis:                      15.326   Cond. No.                         218.
==============================================================================

Warnings:
[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.
```