```
In [1]:
          pip install openpyxl
         Requirement already satisfied: openpyxl in /srv/conda/envs/notebook/lib/python3.7/site-packages (3.0.7)
         Requirement already satisfied: et-xmlfile in /srv/conda/envs/notebook/lib/python3.7/site-packages (from openpyxl) (1.
         1.0)
         Note: you may need to restart the kernel to use updated packages.
In [2]:
         import pandas as pd
          import seaborn as sns
         import matplotlib.pyplot as plt
In [3]:
         data=pd.read excel("Top 10 Chocolate Bars.xlsx")
In [4]:
          data
                   Brand Age Group Rank
Out[4]:
          0
                    Mars
                              18-24
                                     1.0
          1
                  Galaxy
                              18-24
                                      2.0
          2
                Dairy Milk
                              18-24
                                      3.0
          3
                              18-24
                 Snickers
                                      4.0
                              18-24
          4
                    Twix
                                      5.0
          5
                   Wispa
                              18-24
                                      6.0
          6
                   KitKat
                              18-24
                                      7.0
          7 Double Decker
                              18-24
                                      8.0
          8
                    Twirl
                              18-24
                                      9.0
          9
                 Crunchie
                              18-24
                                     10.0
         10
                   Boost
                              18-24
                                    NaN
         11
                  Bounty
                              18-24
                                    NaN
```

	Brand	Age Group	Rank
12	Picnic	18-24	NaN
13	Mars	35-44	1.0
14	Galaxy	35-44	2.0
15	Snickers	35-44	3.0
16	Dairy Milk	35-44	4.0
17	Twix	35-44	5.0
18	Wispa	35-44	6.0
19	Double Decker	35-44	7.0
20	Boost	35-44	8.0
21	Twirl	35-44	9.0
22	KitKat	35-44	10.0
23	Bounty	35-44	NaN
24	Crunchie	35-44	NaN
25	Picnic	35-44	NaN
26	Mars	65+	1.0
27	Galaxy	65+	2.0
28	Snickers	65+	3.0
29	Twix	65+	4.0
30	KitKat	65+	5.0
31	Crunchie	65+	6.0
32	Bounty	65+	7.0
33	Picnic	65+	8.0
34	Twirl	65+	9.0
35	Dairy Milk	65+	10.0
36	Boost	65+	NaN

Brand Age Group Rank NaN 37 Double Decker 65+ 38 Wispa 65+ NaN In [5]: df=pd.DataFrame(data) In [6]: print(data) Rank Brand Age Group 18-24 1.0 0 Mars 1 Galaxy 18-24 2.0 Dairy Milk 18-24 3.0 3 18-24 Snickers 4.0 18-24 Twix 5.0 5 18-24 6.0 Wispa 6 KitKat 18-24 7.0 18-24 8.0 Double Decker 8 Twirl 18-24 9.0 9 18-24 Crunchie 10.0 18-24 10 Boost NaN 11 Bounty 18-24 NaN 12 18-24 Picnic NaN 13 35-44 1.0 Mars 14 Galaxy 35-44 2.0 15 Snickers 35-44 3.0 35-44 16 Dairy Milk 4.0 17 Twix 35-44 5.0 18 35-44 Wispa 6.0 19 35-44 7.0 Double Decker 20 35-44 8.0 Boost 35-44 21 Twirl 9.0 22 35-44 KitKat 10.0 23 35-44 Bounty NaN 24 Crunchie 35-44 NaN 25 Picnic 35-44 NaN 26 1.0 Mars 65+ 27 Galaxy 65+ 2.0 28 Snickers 65+ 3.0

4.0

65+

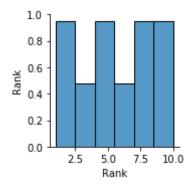
Twix

29

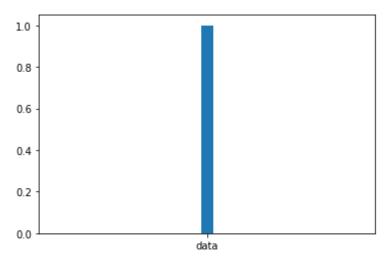
```
30
          KitKat
                       65+
                            5.0
31
        Crunchie
                       65+
                             6.0
32
          Bounty
                       65+
                            7.0
33
          Picnic
                       65+
                            8.0
34
           Twirl
                       65+
                            9.0
35
      Dairy Milk
                       65+ 10.0
36
           Boost
                       65+
                            NaN
37 Double Decker
                       65+
                             NaN
38
           Wispa
                       65+
                             NaN
```

```
In [7]: sns.pairplot(data)
```

Out[7]: <seaborn.axisgrid.PairGrid at 0x7f6817f4c690>



```
In [9]:
  plt.hist('data',bins=25)
```



```
In [10]:
        plt.hist('df.Age Group',bins=25)
0., 0., 0., 0., 0., 0., 0., 0.]),
        array([-0.5, -0.46, -0.42, -0.38, -0.34, -0.3, -0.26, -0.22, -0.18,
             -0.14, -0.1, -0.06, -0.02, 0.02, 0.06, 0.1, 0.14, 0.18,
              0.22, 0.26, 0.3, 0.34, 0.38, 0.42, 0.46, 0.5]),
        <a list of 25 Patch objects>)
       1.0
       0.8
       0.6
       0.4
       0.2
       0.0
                      df.Age Group
```

```
fig,ax=plt.subplots()
In [14]:
           ax.scatter(df['Brand'],df['Age Group'],df['Rank'])
           plt.show()
           35-44
           18-24
                MarsGalsDeviry ShilkkerswixWispaOtoKattle DeTwetTrunchBoosBountVicnic
In [16]:
           fig,ax=plt.subplots()
           ax.hist(df['Age Group'])
           plt.show()
           12
           10
            8
            6
            4
            2
              18-24
                                     35-44
```

```
In [17]:
          first=pd.DataFrame(df[(df['Age Group']=='18-24')])
          print(first)
                      Brand Age Group
                                        Rank
                                 18-24
          0
                       Mars
                                         1.0
                     Galaxy
                                 18-24
                                         2.0
                 Dairy Milk
                                 18-24
                                         3.0
                   Snickers
                                 18-24
                                         4.0
                       Twix
                                 18-24
                                         5.0
                      Wispa
                                 18-24
                                         6.0
          6
                                         7.0
                     KitKat
                                 18-24
              Double Decker
                                 18-24
                                         8.0
          8
                                 18-24
                      Twirl
                                         9.0
                   Crunchie
          9
                                 18-24
                                        10.0
          10
                                 18-24
                      Boost
                                         NaN
          11
                                 18-24
                     Bounty
                                         NaN
          12
                                 18-24
                     Picnic
                                         NaN
In [18]:
          plt.plot(first['Brand'],first['Rank'])
Out[18]: [<matplotlib.lines.Line2D at 0x7f680f727b50>]
          10
           8
           6
           4
           2 ·
             Mars GalaxDairy MBkickers Twix Wispa KitBlatible DeckerirlCrunchie
In [19]:
          plt.scatter(first['Brand'], first['Rank'])
          <matplotlib.collections.PathCollection at 0x7f680f6b6c10>
```

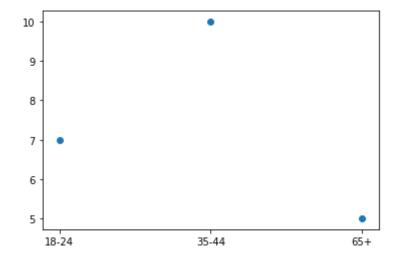
Create PDF in your applications with the Pdfcrowd HTML to PDF API

```
Out[19]:
          10
           8
           2 -
             Mars GalaxQairy MSkickers Twix Wispa KitKetible DecKerirlCrunchie
In [20]:
          mars=pd.DataFrame(df[(df['Brand']=='Mars')])
           print(mars)
             Brand Age Group Rank
                        18-24
          0 Mars
          13 Mars
                        35-44
          26 Mars
                                1.0
                          65+
In [22]:
           plt.scatter(mars['Age Group'],mars['Rank'])
```

Out[22]: <matplotlib.collections.PathCollection at 0x7f680f5a8ad0>

```
1.015
          1.010
          1.005
          1.000 -
          0.995
          0.990
          0.985
               18-24
                                   35-44
                                                        65+
In [24]:
          kitkat=pd.DataFrame(df[(df['Brand']=='KitKat')])
          print(kitkat)
               Brand Age Group Rank
             KitKat
                         18-24
                                7.0
         22 KitKat
                         35-44 10.0
         30 KitKat
                           65+
                                5.0
In [25]:
          plt.scatter(kitkat['Age Group'], kitkat['Rank'])
```

Out[25]: <matplotlib.collections.PathCollection at 0x7f680f589a90>



In []: