

BikeBuyersGraphs

August 1, 2025

```
[1]: import pandas as pd
import matplotlib.pyplot as plt
```

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[2]: bikes = pd.read_csv("../..../datasets/bike_buyers_clean.csv")
```

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[3]: bikes.head()
```

```
[3]:      ID Marital Status  Gender  Income  Children  Education \
0  12496      Married  Female   40000         1    Bachelors
1  24107      Married   Male   30000         3  Partial College
2  14177      Married   Male   80000         5  Partial College
3  24381       Single   Male   70000         0    Bachelors
4  25597       Single   Male   30000         0    Bachelors
```

```
      Occupation Home Owner  Cars  Commute Distance  Region  Age \
0  Skilled Manual      Yes    0      0-1 Miles  Europe  42
1      Clerical      Yes    1      0-1 Miles  Europe  43
2   Professional      No    2      2-5 Miles  Europe  60
3   Professional      Yes    1      5-10 Miles  Pacific  41
4      Clerical      No    0      0-1 Miles  Europe  36
```

```
      Purchased Bike
0              No
1              No
2              No
3              Yes
4              Yes
```

```
[4]: bikes.describe()
```

```
[4]:      count      ID      Income      Children      Cars      Age
count  1000.000000  1000.000000  1000.000000  1000.000000  1000.000000
mean    19965.992000  56140.000000    1.908000    1.452000   44.190000
std     5347.333948  31081.609779    1.626094    1.124705   11.353537
min     11000.000000  10000.000000    0.000000    0.000000   25.000000
25%     15290.750000  30000.000000    0.000000    1.000000   35.000000
50%     19744.000000  60000.000000    2.000000    1.000000   43.000000
75%     24470.750000  70000.000000    3.000000    2.000000   52.000000
```

max 29447.000000 170000.000000 5.000000 4.000000 89.000000

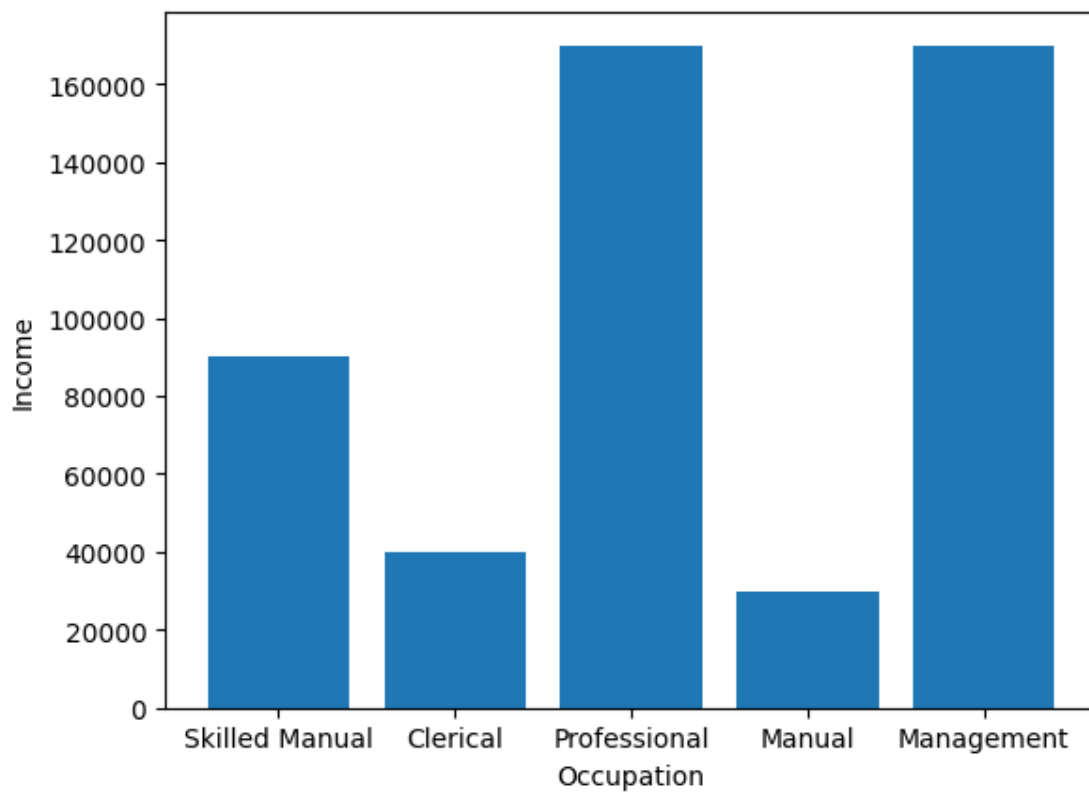
```
[5]: bikes.corr(numeric_only=True)
```

```
[5]:
```

	ID	Income	Children	Cars	Age
ID	1.000000	-0.077371	-0.031532	0.024308	-0.054262
Income	-0.077371	1.000000	0.258558	0.447695	0.169128
Children	-0.031532	0.258558	1.000000	0.273985	0.530621
Cars	0.024308	0.447695	0.273985	1.000000	0.190577
Age	-0.054262	0.169128	0.530621	0.190577	1.000000

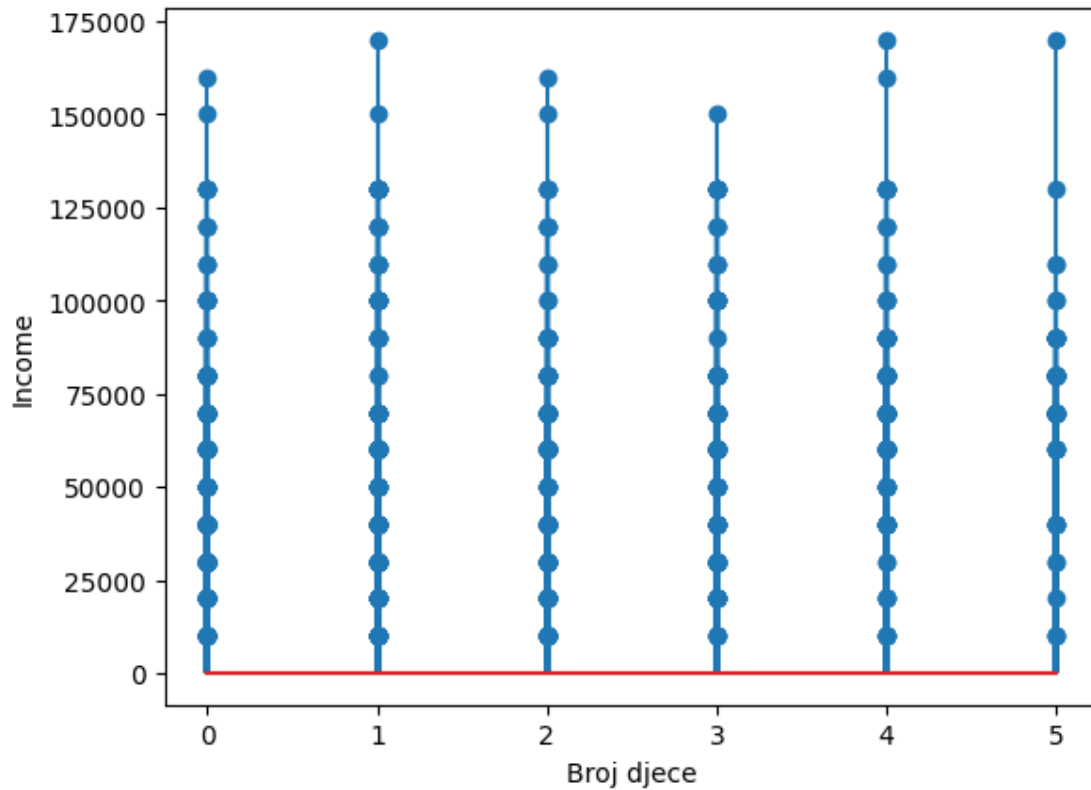
```
[6]: plt.xlabel('Occupation')
plt.ylabel('Income')
plt.bar(bikes.Occupation, bikes.Income)
```

```
[6]: <BarContainer object of 1000 artists>
```



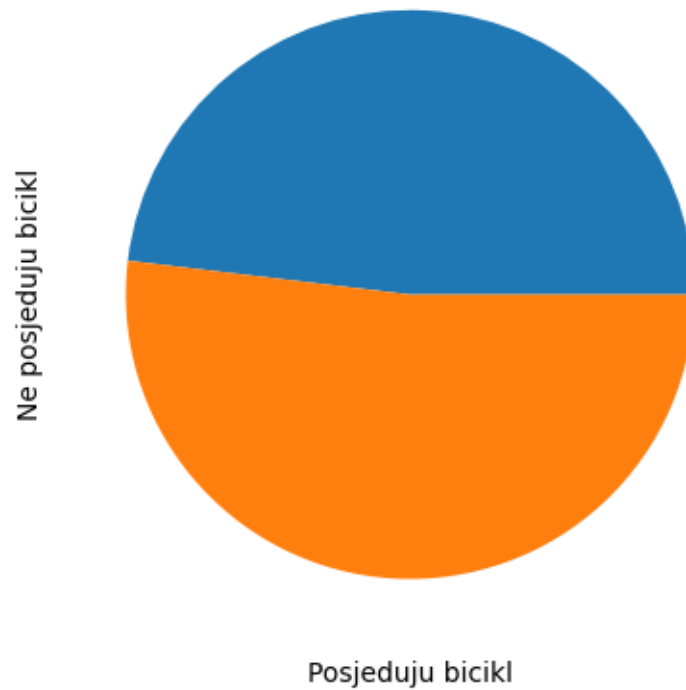
```
[7]: plt.xlabel('Broj djece')
plt.ylabel('Income')
plt.stem(bikes.Children, bikes.Income)
```

```
[7]: <StemContainer object of 3 artists>
```



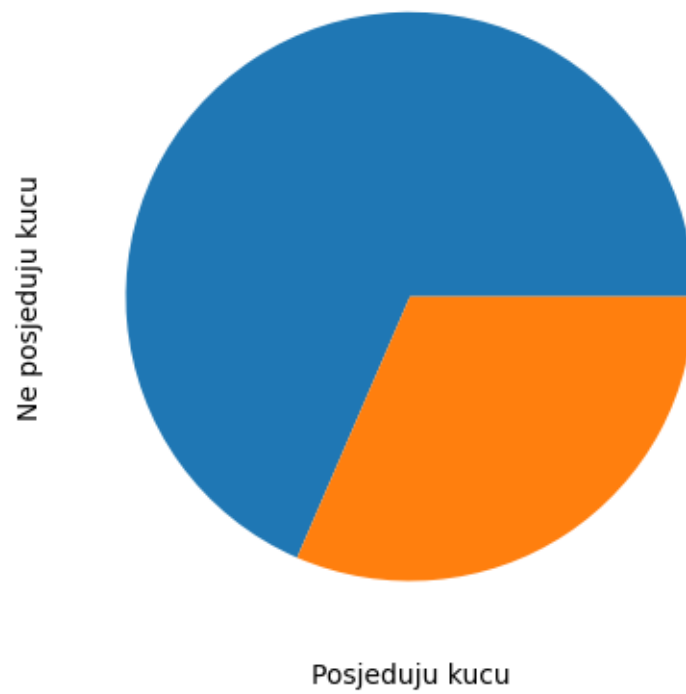
```
[8]: plt.xlabel('Posjeduju bicikl')
plt.ylabel('Ne posjeduju bicikl')
purchased_bike=bikes["Purchased Bike"].value_counts()
plt.pie([purchased_bike["Yes"], purchased_bike["No"]])
```

```
[8]: ([<matplotlib.patches.Wedge at 0x7f05e1b1ffd0>,
<matplotlib.patches.Wedge at 0x7f05e1b6b050>],
[Text(0.06562022986786889, 1.0980409762081231, ''),
Text(-0.06562052656412581, -1.098040958477163, '')])
```



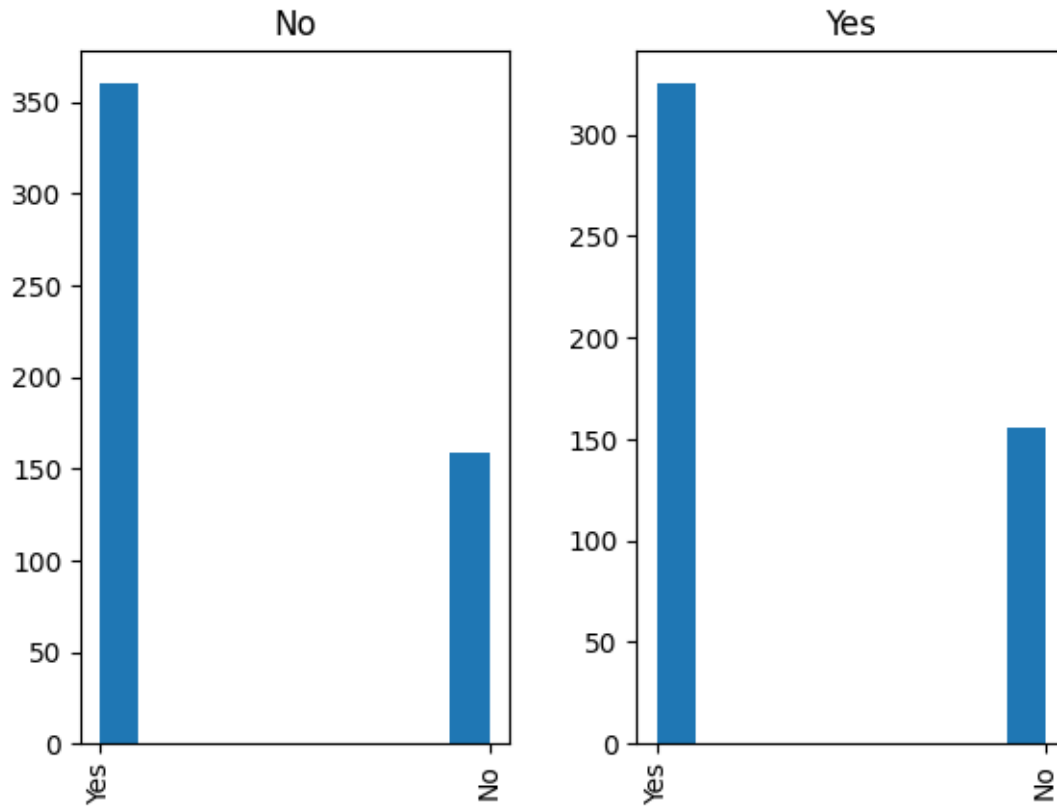
```
[9]: plt.xlabel('Posjeduju kucu')
plt.ylabel('Ne posjeduju kucu')
home_owners=bikes["Home Owner"].value_counts()
plt.pie([home_owners["Yes"], home_owners["No"]])
```

```
[9]: ([<matplotlib.patches.Wedge at 0x7f05e1b85290>,
      <matplotlib.patches.Wedge at 0x7f05e1ba6d90>],
      [Text(-0.6039252480147912, 0.9193880001448099, ''),
      Text(0.603924889991839, -0.9193882353219152, '')])
```



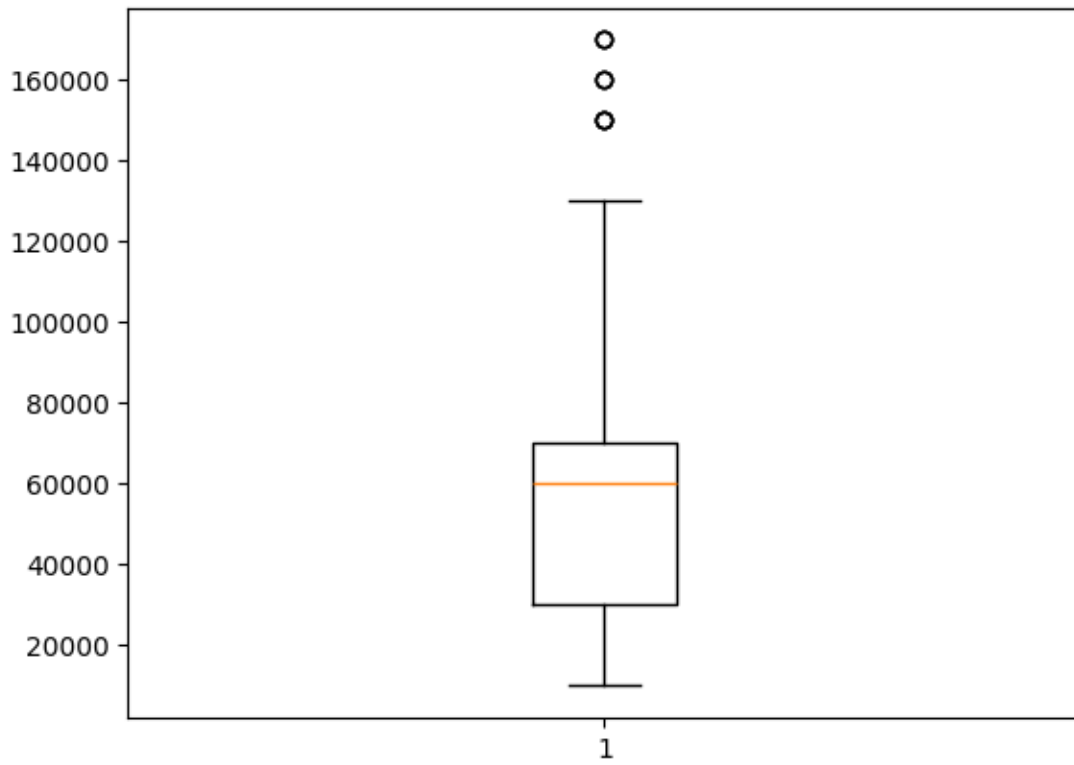
```
[10]: bikes["Home Owner"].hist(by= bikes["Purchased Bike"])
```

```
[10]: array([<Axes: title={'center': 'No'}>, <Axes: title={'center': 'Yes'}>],  
          dtype=object)
```



```
[11]: plt.boxplot(bikes["Income"])
```

```
[11]: {'whiskers': [<matplotlib.lines.Line2D at 0x7f05e18e40d0>,
<matplotlib.lines.Line2D at 0x7f05e190c250>],
'caps': [<matplotlib.lines.Line2D at 0x7f05e190cb90>,
<matplotlib.lines.Line2D at 0x7f05e190d450>],
'boxes': [<matplotlib.lines.Line2D at 0x7f05e1aafb50>],
'medians': [<matplotlib.lines.Line2D at 0x7f05e190dd10>],
'fliers': [<matplotlib.lines.Line2D at 0x7f05e190e510>],
'means': []}
```



[]: