This task involves using the matplotlib library to visualize data. Customize the charts with labels, titles, and legends. Add some more for the steps in detail.:

```
# Import Libraries
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt


# Load Data
data = pd.read_csv("/content/householdtask3.csv")


# Displaying the top ten values
display(data.head(10))
```

	year	tot_hhs	own	own_wm	own_prop	own_wm_prop	prop_hhs	age	size	income
0	2008	1560859	1087580	574406	69.7	36.8	100.0	35.9	2.7	46704
1	2008	185965	71256	39405	38.3	21.2	11.9	29.9	2.6	23404
2	2008	312376	191470	48424	61.3	15.5	20.0	40.0	2.3	16747
3	2008	312333	196203	84171	62.8	26.9	20.0	34.7	2.8	31308
4	2008	312240	217657	141318	69.7	45.3	20.0	31.5	3.0	49106
5	2008	312336	229014	147658	73.3	47.3	20.0	35.3	2.6	61674
6	2008	311574	253235	152835	81.3	49.1	20.0	39.3	2.5	96861
7	2008	312761	194358	49448	62.1	15.8	20.0	38.7	2.5	23680
8	2008	311973	206342	86390	66.1	27.7	20.0	36.1	2.7	34155
9	2008	311840	194361	108065	62.3	34.7	20.0	33.0	2.8	49771

```
# Displaying the bottom ten values
display(data.tail(10))
```

	year	tot_hhs	own	own_wm	own_prop	own_wm_prop	prop_hhs	age	size	income
60	2020	351497	210229	121764	59.8	34.6	20.0	33.8	3.0	66897
61	2020	351517	229772	154104	65.4	43.8	20.0	36.9	2.8	92531
62	2020	350840	282193	170510	80.4	48.6	20.0	39.8	2.7	146672
63	2020	352137	182056	45300	51.7	12.9	20.0	40.6	2.5	33200
64	2020	350530	198616	80783	56.7	23.0	20.0	37.4	2.8	51756
65	2020	352564	213893	119637	60.7	33.9	20.1	36.9	2.8	69779
66	2020	350182	235256	141104	67.2	40.3	19.9	35.0	3.0	88944
67	2020	351328	288779	187838	82.2	53.5	20.0	39.6	2.6	104277
68	2020	329588	156459	107753	47.5	32.7	18.8	31.1	3.2	69581
69	2020	388013	314154	38270	81.0	9.9	22.1	69.8	1.7	34712

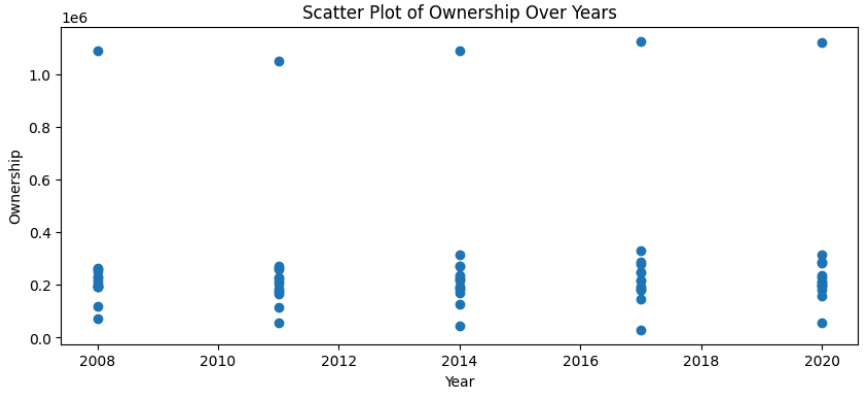
```
# Data Exploration
print(data.describe())
```

```
              year       tot_hhs           own         own_wm   own_prop  \
count    70.000000  7.000000e+01  7.000000e+01      70.000000  70.000000
mean   2014.000000  4.125193e+05  2.689711e+05  129639.457143  63.505714
std       4.273274  3.491547e+05  2.385230e+05  128627.124758  15.145257
min    2008.000000  1.322150e+05  3.008000e+04   14220.000000  22.800000
25%    2011.000000  3.123460e+05  1.838408e+05   50636.750000  55.400000
50%    2014.000000  3.276340e+05  2.153065e+05  107909.000000  64.200000
75%    2017.000000  3.468958e+05  2.604148e+05  147563.000000  73.675000
max    2020.000000  1.756740e+06  1.125000e+06  574662.000000  88.100000

       own_wm_prop    prop_hhs        age       size         income  \
count    70.000000   70.000000  70.000000  70.000000      70.000000
mean     30.348571   24.985714  38.284286   2.625714   56694.785714
std      14.010004   21.102368   9.376345   0.350439   28921.315551
min       5.100000    7.800000  27.300000   1.600000   16747.000000
25%      15.850000   20.000000  34.850000   2.500000   33299.000000
50%      32.650000   20.000000  36.600000   2.700000   52429.500000
75%      42.050000   20.000000  38.650000   2.800000   69481.500000
max      58.200000  100.000000  70.300000   3.200000  146672.000000
```

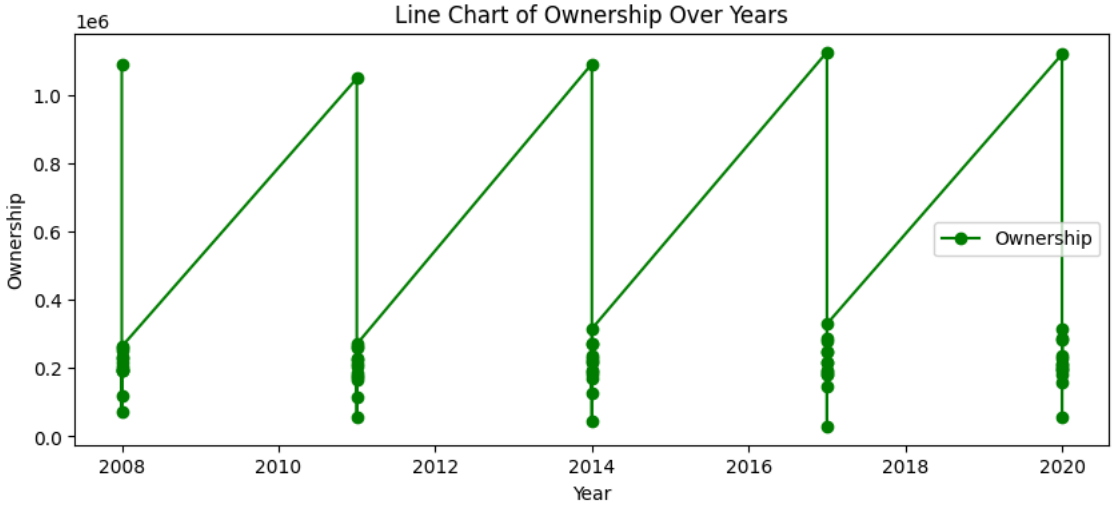
	expenditure	eqv_income	eqv_exp
count	70.000000	70.000000	70.000000
mean	49267.128571	33451.500000	29510.471429
std	24008.560485	16004.914882	13307.606051
min	16413.000000	13402.000000	11015.000000
25%	29904.750000	21499.500000	19884.500000
50%	44887.000000	28454.500000	25763.500000
75%	58777.500000	38823.000000	33992.250000
max	123424.000000	79607.000000	71985.000000

Visualize Data

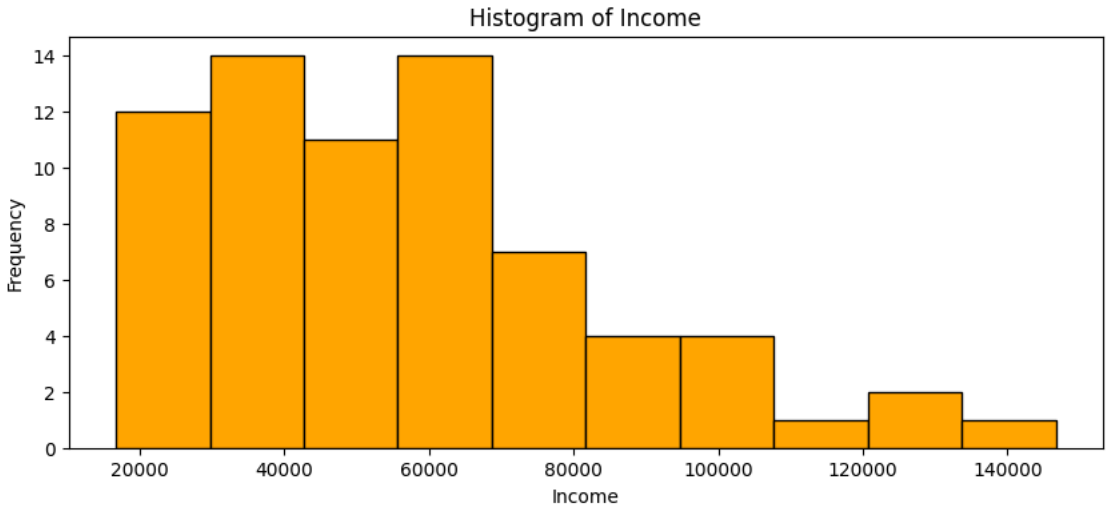
```
# Scatter Plot

# Set figure size
plt.figure(figsize=(10, 4))

# Create a scatter plot
plt.scatter(data['year'], data['own'])

# Title
plt.title("Scatter Plot of Ownership Over Years")

# Labels
plt.xlabel("Year")
plt.ylabel("Ownership")

# Show Plot
plt.show()
```




```
# Line Chart

# Set figure size
plt.figure(figsize=(10, 4))

# Plot the line chart with labels
plt.plot(data['year'], data['own'], marker='o', linestyle='-', color='green', label='Ownership')

# Title
plt.title("Line Chart of Ownership Over Years")

# Labels
plt.xlabel("Year")
plt.ylabel("Ownership")

# Legend
plt.legend()

# Show Plot
plt.show()
```




```
# Histogram

# Set figure size
plt.figure(figsize=(10, 4))

# Plot histogram of income
plt.hist(data['income'], color='orange', edgecolor='black')

# Title
plt.title("Histogram of Income")

# Labels
plt.xlabel("Income")
plt.ylabel("Frequency")

# Show Plot
plt.show()
```



```
# Bar Chart

# Set figure size
plt.figure(figsize=(10, 4))

# Create a bar chart
plt.bar(data['year'], data['own'], color='skyblue', label='Ownership')

# Title
plt.title("Bar Chart of Ownership Over Years")

# Labels
plt.xlabel("Year")
plt.ylabel("Ownership")

# Legend
plt.legend()

# Show Plot
plt.show()
```