Description:

This task involves using the matplotlib library to visualize data.

Programs with their output:

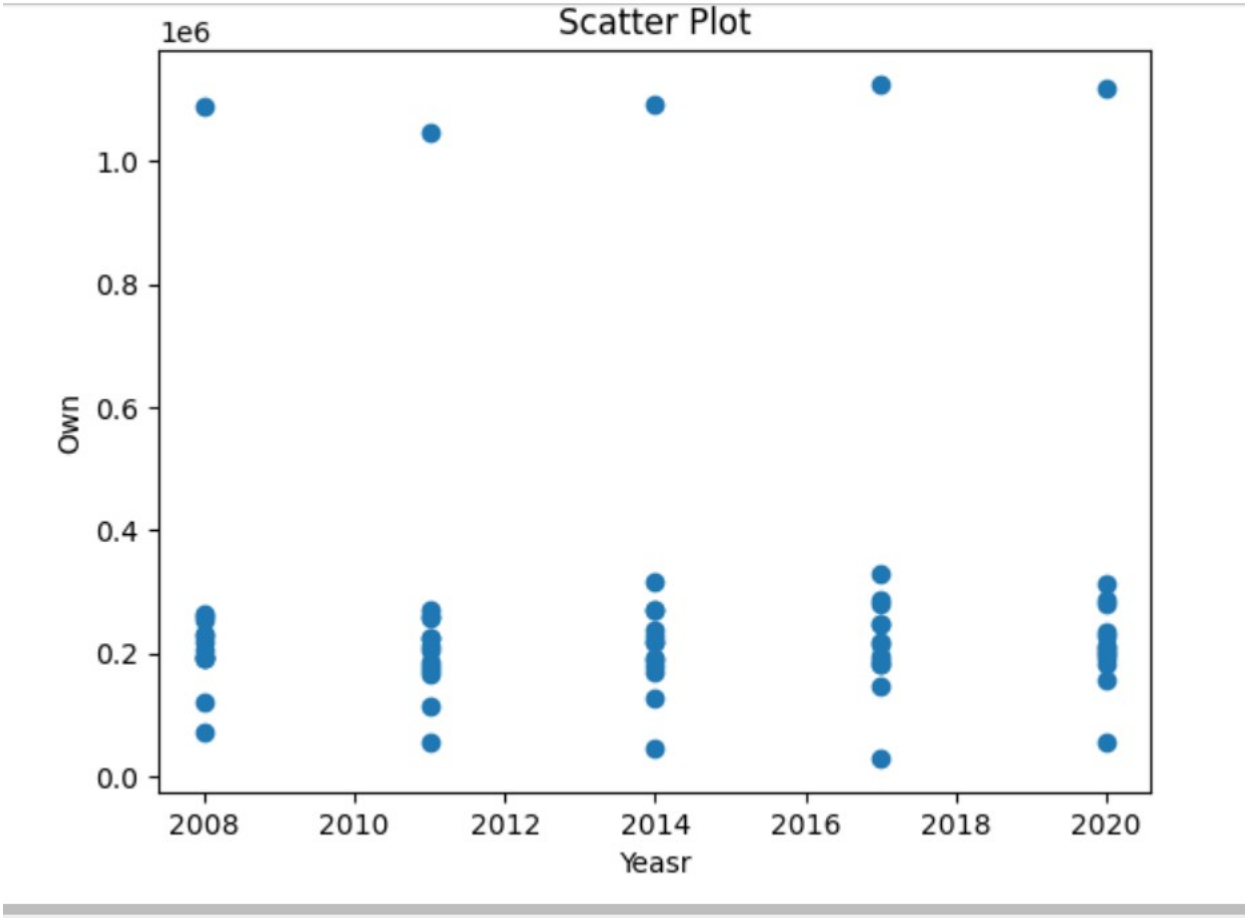
[10]:
```
import pandas as pd

# Load the CSV file with a different encoding if necessary
file_path = 'householdtask3.csv'

# Attempt to read the file with UTF-8 encoding
try:
    df = pd.read_csv(file_path, encoding='utf-8')
    print("File successfully read with UTF-8 encoding.")
except Exception as e:
    print(f"Failed to read file with UTF-8 encoding: {e}")
    # Attempt to read the file with ISO-8859-1 encoding
    try:
        df = pd.read_csv(file_path, encoding='ISO-8859-1')
        print("File successfully read with ISO-8859-1 encoding.")
    except Exception as e:
        print(f"Failed to read file with ISO-8859-1 encoding: {e}")

# Display the first few rows of the dataframe to understand its structure
try:
    print(df.head())
except Exception as e:
    print(f"Error displaying the dataframe: {e}")
```

```
    except Exception as e:
        print(f"Failed to read file with ISO-8859-1 encoding: {e}")

# Display the first few rows of the dataframe to understand its structure
try:
    print(df.head())
except Exception as e:
    print(f"Error displaying the dataframe: {e}")

# If there is still an issue, inspect the raw content of the file
if df is None:
    import csv

    with open(file_path, 'r', encoding='ISO-8859-1') as file:
        reader = csv.reader(file)
        for i, row in enumerate(reader):
            print(row)
            if i == 10:  # Print only the first 10 lines for inspection
                break
```

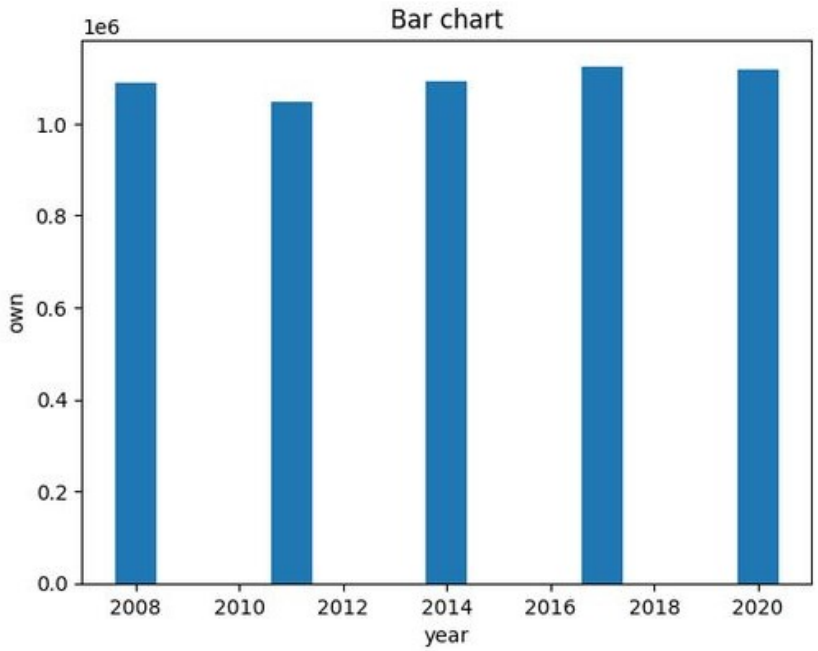
```
File successfully read with UTF-8 encoding.
   year  tot_hhs      own  own_wm  own_prop  own_wm_prop  prop_hhs   age  \
0  2008  1560859  1087580  574406      69.7         36.8     100.0  35.9
1  2008   185965    71256   39405      38.3         21.2      11.9  29.9
2  2008   312376   191470   48424      61.3         15.5      20.0  40.0
```

```
File successfully read with UTF-8 encoding.
   year  tot_hhs      own  own_wm  own_prop  own_wm_prop  prop_hhs   age  \
0  2008  1560859  1087580  574406      69.7         36.8     100.0  35.9
1  2008   185965    71256   39405      38.3         21.2      11.9  29.9
2  2008   312376   191470   48424      61.3         15.5      20.0  40.0
3  2008   312333   196203   84171      62.8         26.9      20.0  34.7
4  2008   312240   217657  141318      69.7         45.3      20.0  31.5

   size  income  expenditure  eqv_income  eqv_exp
0   2.7   46704        42394       26869    25132
1   2.6   23404        25270       14258    15824
2   2.3   16747        21145       13402    14408
3   2.8   31308        29855       18917    18266
4   3.0   49106        46561       26870    24672
```

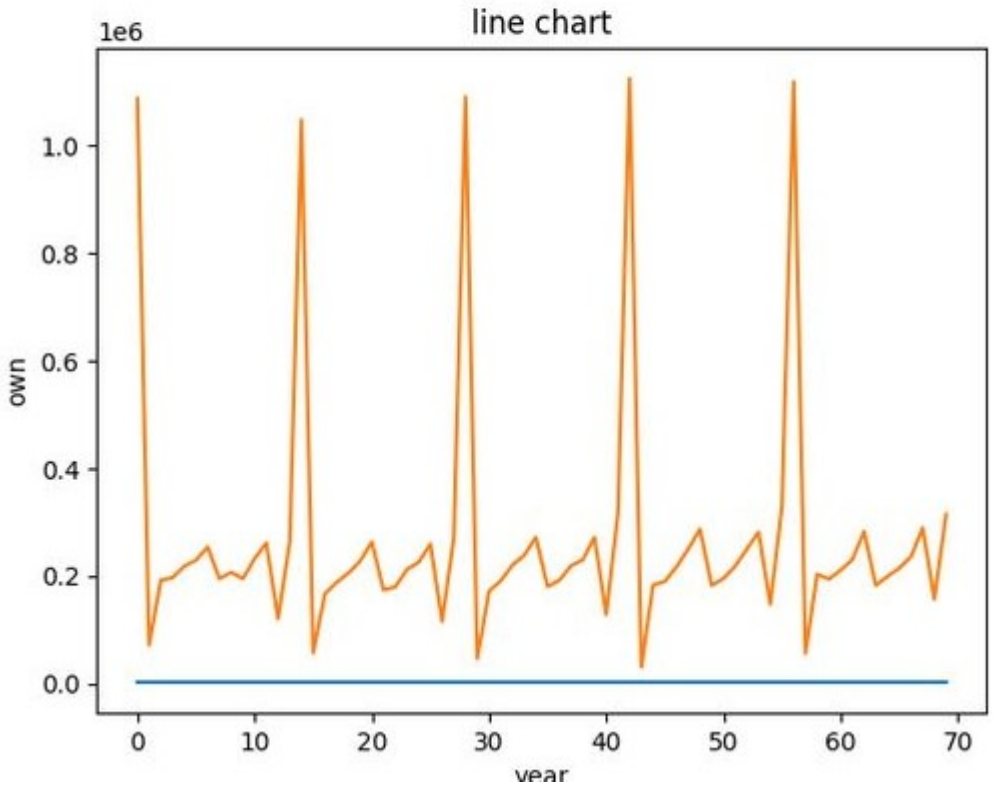
[14]:
```
import matplotlib.pyplot as plt

# Group by 'Task' and sum the 'Hours'
# task_hours = df.groupby('Task')['Hours'].sum()

# Create a bar chart
# plt.figure(figsize=(10, 5))
# task_hours.plot(kind='bar', color='skyblue')
plt.scatter(df['year'], df['own'])
plt.title('Scatter Plot')
plt.xlabel('Yeasr')
plt.ylabel('Own')
plt.show()
```



[6]:
```
#Bar Chart
plt.bar(data['year'],data['own'])
plt.title("Bar chart")
plt.xlabel('year')
plt.ylabel('own')
plt.show()
```



[5]:
```
#Line chart with year against own
plt.plot(data['year'])
plt.plot(data['own'])
plt.title("line chart)
plt.xlabel('year')
plt.ylabel('own')
plt.show()
```



[7]:
```
#histogram
plt.hist(data['income'])
plt.title("Histogram")
plt.show()
```