

# UK Employment Statistics (Working and Workless Households)

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Overview

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Overview of the tool used

The main advantage of python in comparison to other data analytic tools such as excel, would be Python's ability to handle large volumes of data without hindering productivity. Running scripts using the libraries on allows for more automation and ease of obtaining analysed data. With this task, the data was imported from python which ensures that data will not be lost or tampered with while performing data analysis. After defining the columns from the imported data, it was less tedious to run scripts than to perform individual analysis on excel.

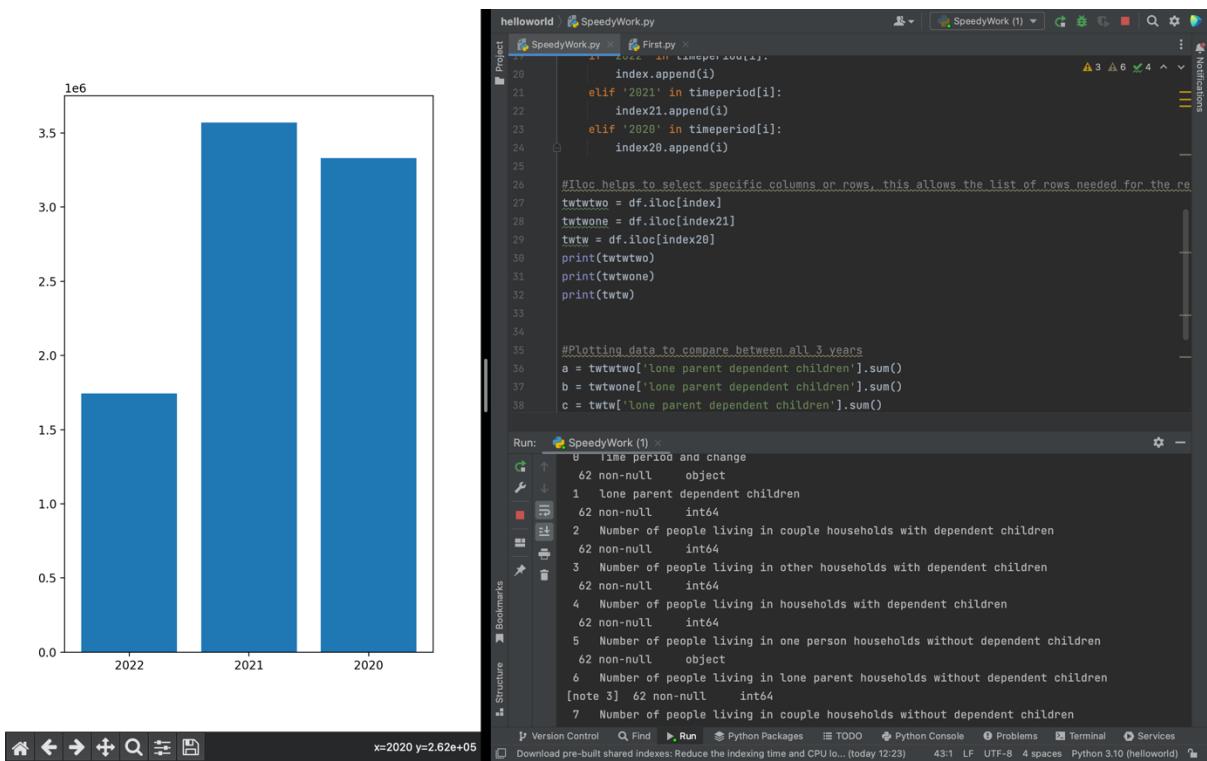
#### Overview of the libraries used

Numpy, pandas and matplotlib were used in the script. All three python libraries allow different functions to be performed. Pandas allows data analysis scripts to be conducted on python. It utilises two other libraries, being numpy and matplotlib. Matplotlib allows for data visualisation through a variety of charts such as bar and pie charts. Numpy permits mathematical operations in python. The combination of these three libraries is what allowed the following data and charts to be formed and analysed.

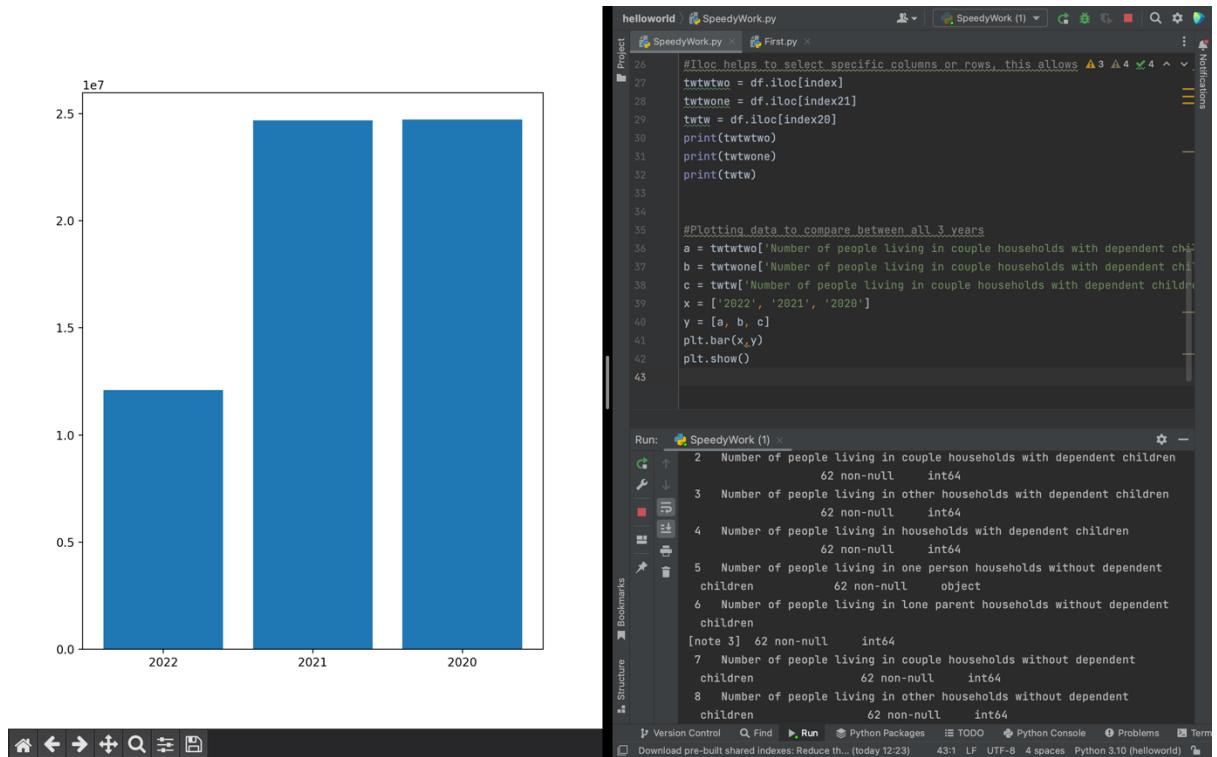
#### Overview of the dataset

By definition, this spreadsheet contains a data table relating to the number and percentage of people living in households with and without dependent children by households type and combined economic status of household members, 1996 to 2022, United Kingdom. The dataset being analysed here refers to the number of people living in mixed households with and without dependent children by household type, not seasonally adjusted, in the United Kingdom. The data was collected from a Household labour force survey.

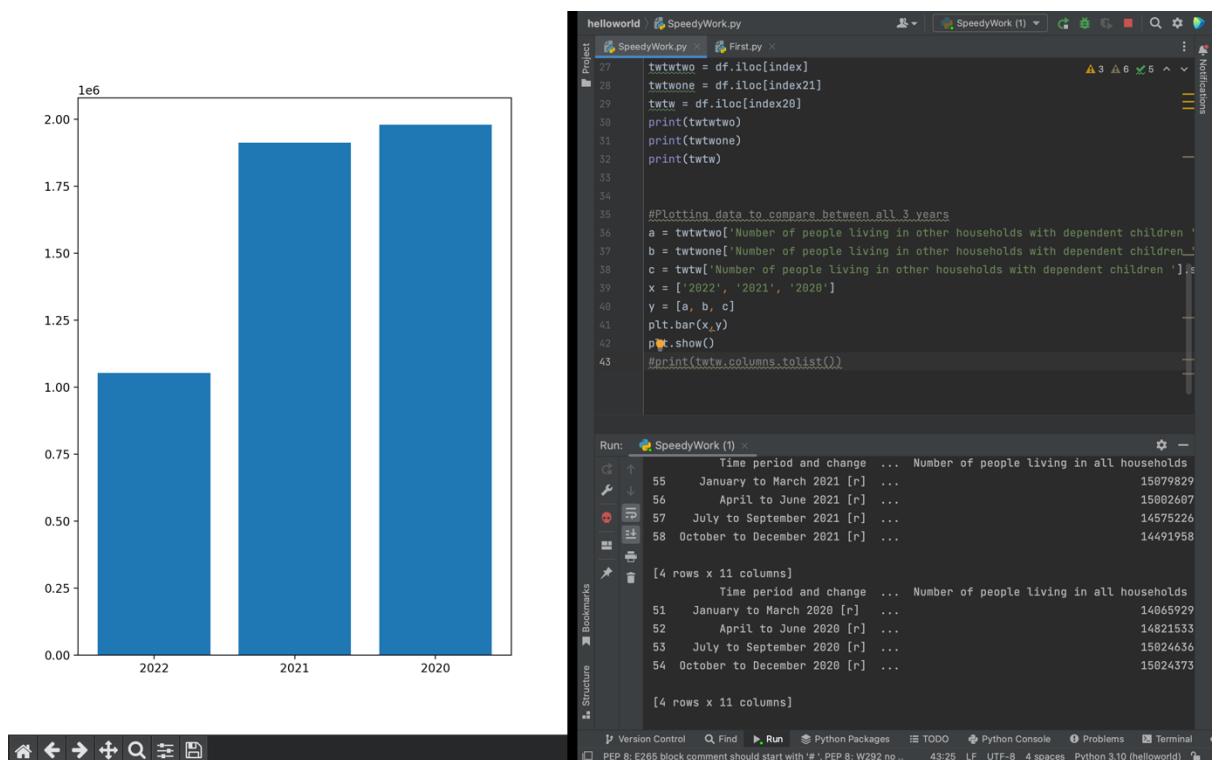
Overall, the data suggests that 2021, closely followed by 2020 as the mixed working households with the highest number of people in different family types. 2022 may have been closer in the total number if the whole year was recorded from the data source, however, only the first 6 months of the year were considered. Although this is the case, the updated report in December 2022 may reveal that there is a decrease in the number of people living in mixed working/workless households which is contrary to the increase experienced in the same metric from 2020 to 2021. There may have been an increase from 2020 to 2021 as a result of the aftermath of the 2020 pandemic since more people were relieved of work duties to cut costs. Lastly, the number of people living in one person households without dependent children was not recorded in this instance as there were no survey results on this satisfying the quota.



Bar chart depicting the number of people living in lone parent dependent children households, for those who are in mixed working/workless households. 2020 falls short in total numbers as only half the year was accounted for.

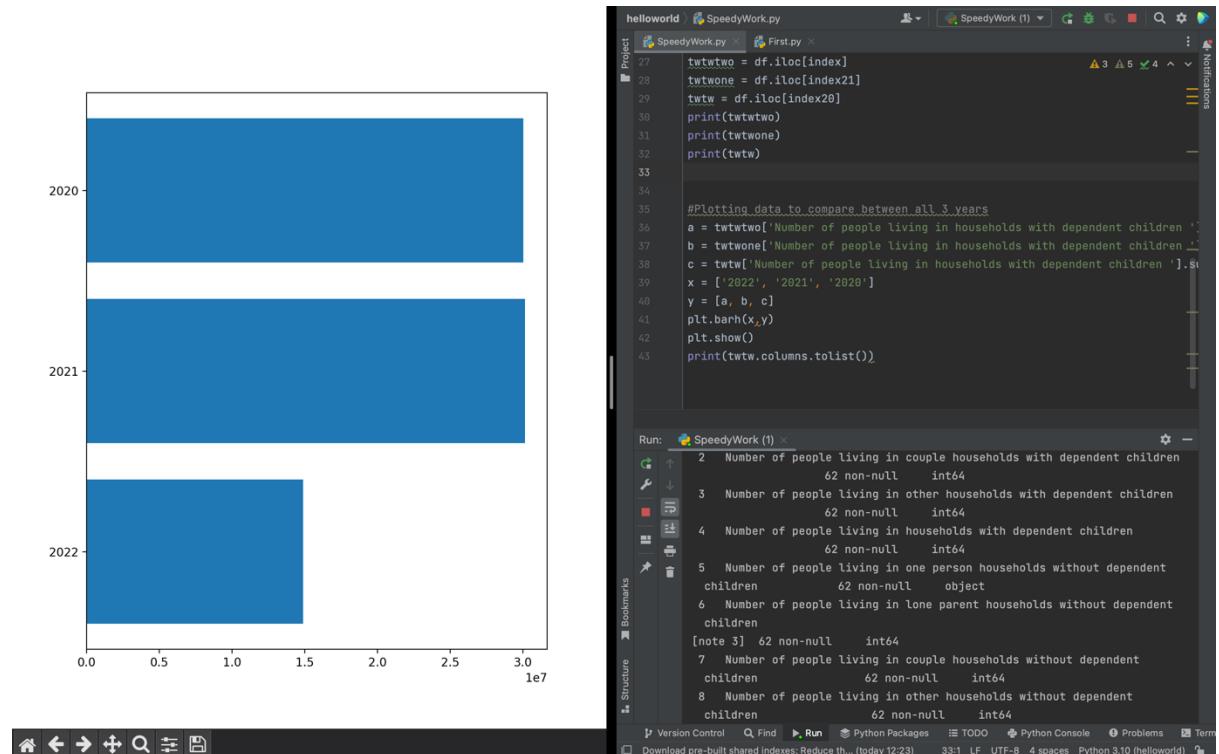


Bar chart depicting the number of people living in couple households with dependent children, for those who are in mixed working/workless households. 2020 falls short in total numbers as only half the year was accounted for.

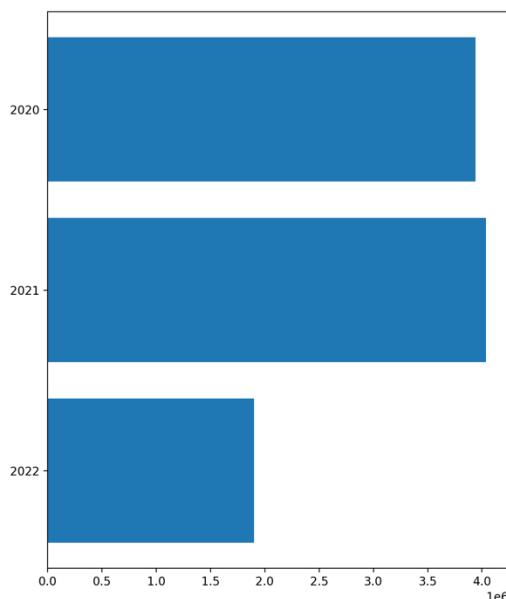


Bar chart depicting the number of people living in 'other' households with dependent children, for those who are in mixed working/workless households. Other could include

extended family households or reconstituted families. 2020 falls short in total numbers as only half the year was accounted for.



Horizontal bar chart depicting the number of people living in households with dependent children, for those who are in mixed working/workless households. 2020 falls short in total numbers as only half the year was accounted for.



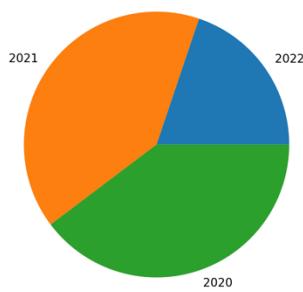
```

25
26 #Iloc helps to select specific columns or rows, this allows the list of columns
27 twtwtwo = df.iloc[2]
28 twtwnone = df.iloc[21]
29 twt = df.iloc[20]
30 print(twtwtwo)
31 print(twtwnone)
32 print(twt)

33
34
35 #Plotting data to compare between all 3 years
36 a = twt[2]['Number of people living in lone parent households without dependent children'].sum()
37 b = twtwnone['Number of people living in lone parent households without dependent children'].sum()
38 c = twt[20]['Number of people living in lone parent households without dependent children'].sum()
39 x = [2022, '2021', '2020']
40 y = [a, b, c]
41 plt.barh(x,y)
42 plt.show()
43 print(twtw.columns.tolist())

```

Horizontal bar chart depicting the number of people living in lone parent without dependent children households, for those who are in mixed working/workless households. 2020 falls short in total numbers as only half the year was accounted for.



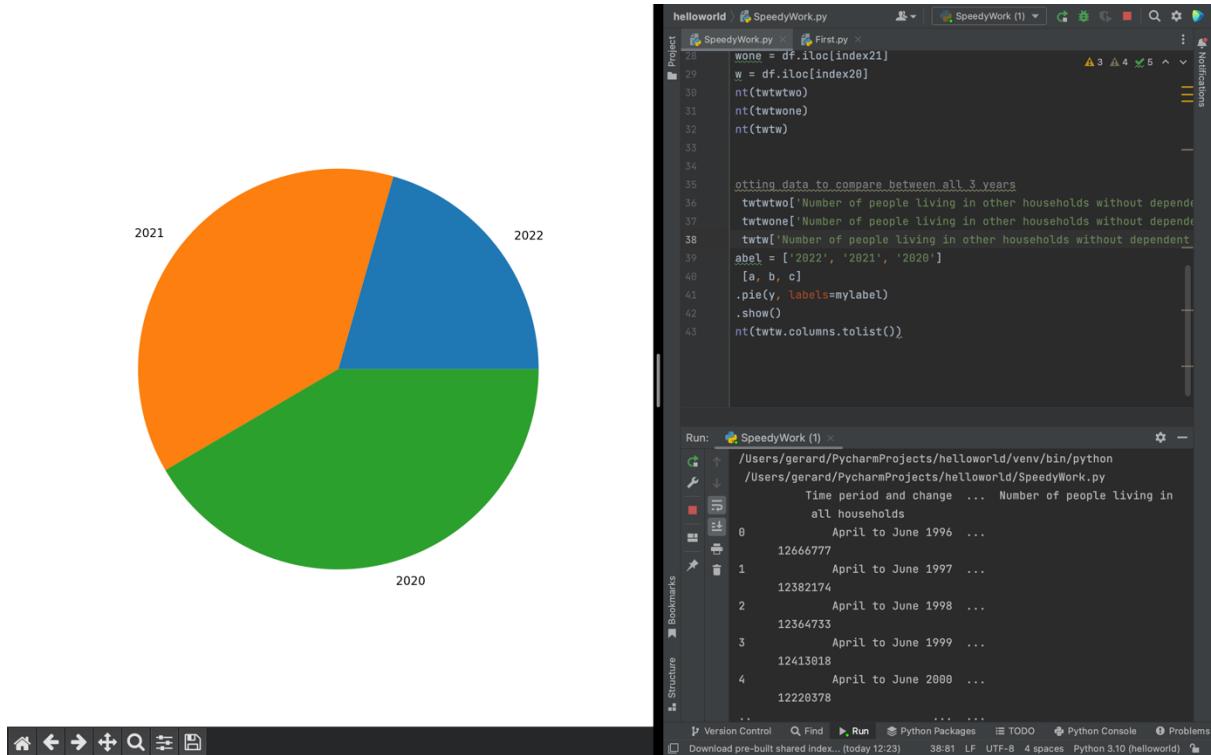
```

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26 #Iloc helps to select specific columns or rows, this allows the list of columns
27 ttwtwo = df.iloc[2]
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29 twt = df.iloc[20]
30 print(twtwtwo)
31 print(twtwnone)
32 print(twt)

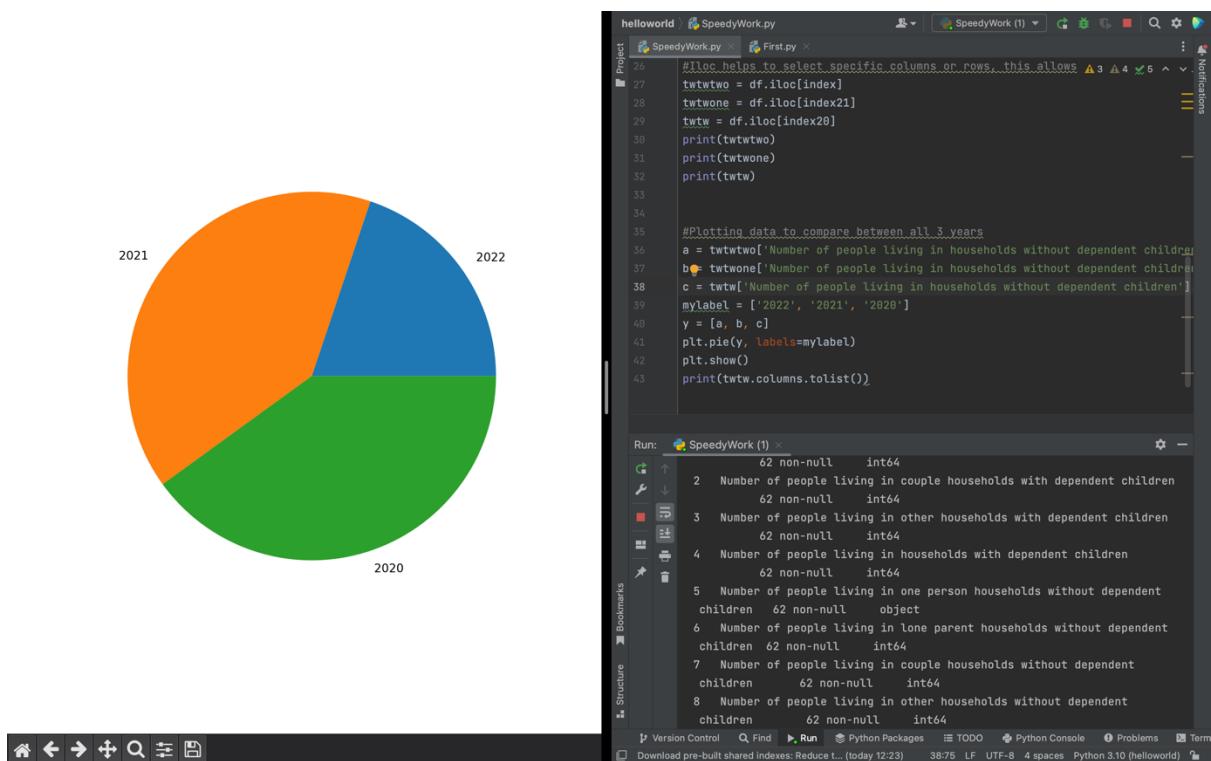
33
34
35 #Plotting data to compare between all 3 years
36 a = twt[2]['Number of people living in couple households without dependent children'].sum()
37 b = twtwnone['Number of people living in couple households without dependent children'].sum()
38 c = twt[20]['Number of people living in couple households without dependent children'].sum()
39 mylabel = ['2022', '2021', '2020']
40 y=[a, b, c]
41 plt.pie(y, labels=mylabel)
42 plt.show()
43 print(twtw.columns.tolist())

```

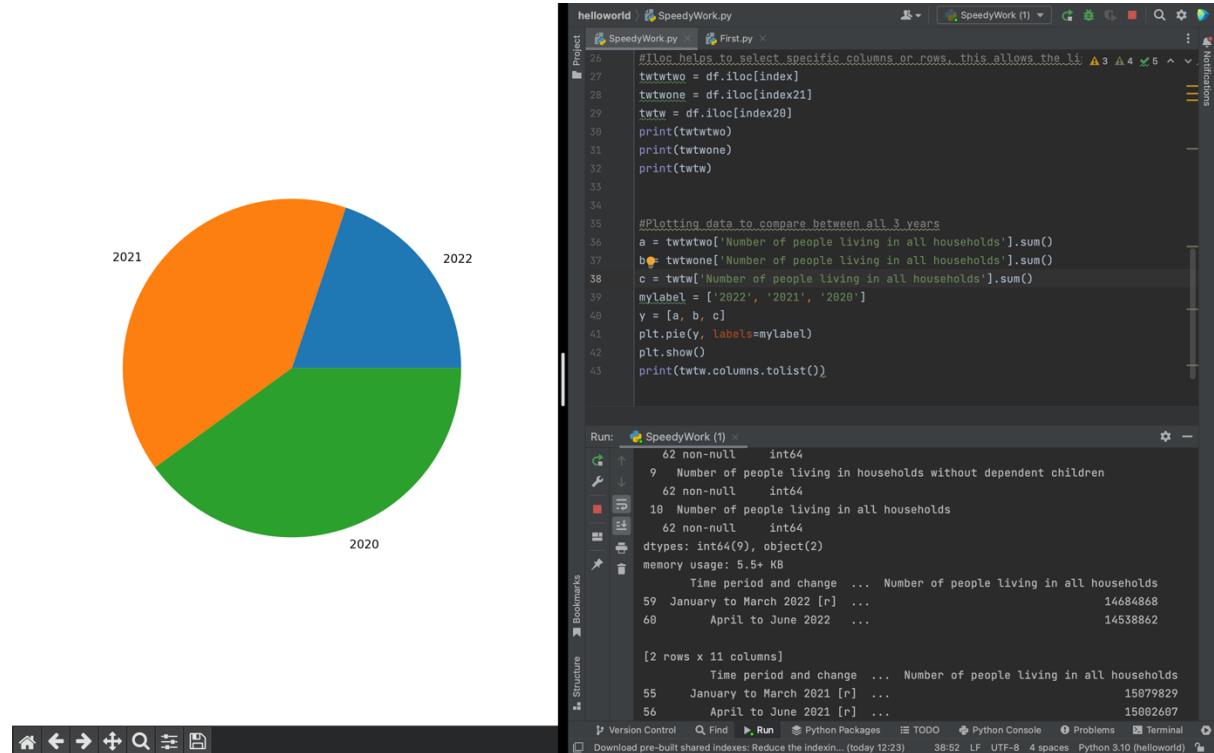
Pie chart showing the number of people living in couple households without dependent children, for those who are in mixed working/workless households. 2020 falls short in total numbers as only half the year was accounted for.



Pie chart showing the number of people living in 'other' households without dependent children, for those who are in mixed working/workless households. Other could include extended family households or reconstituted families. 2020 falls short in total numbers as only half the year was accounted for.

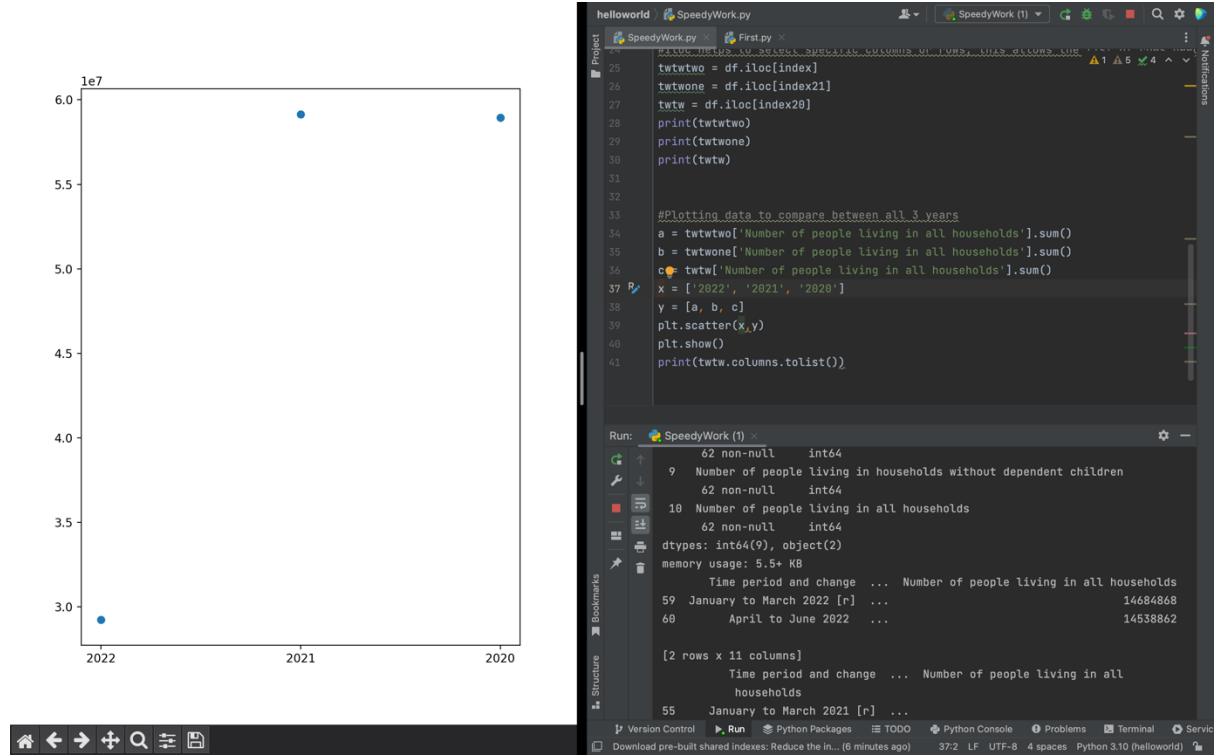


Pie chart showing the number of people living in households without dependent children, for those who are in mixed working/workless households. 2020 falls short in total numbers as only half the year was accounted for.

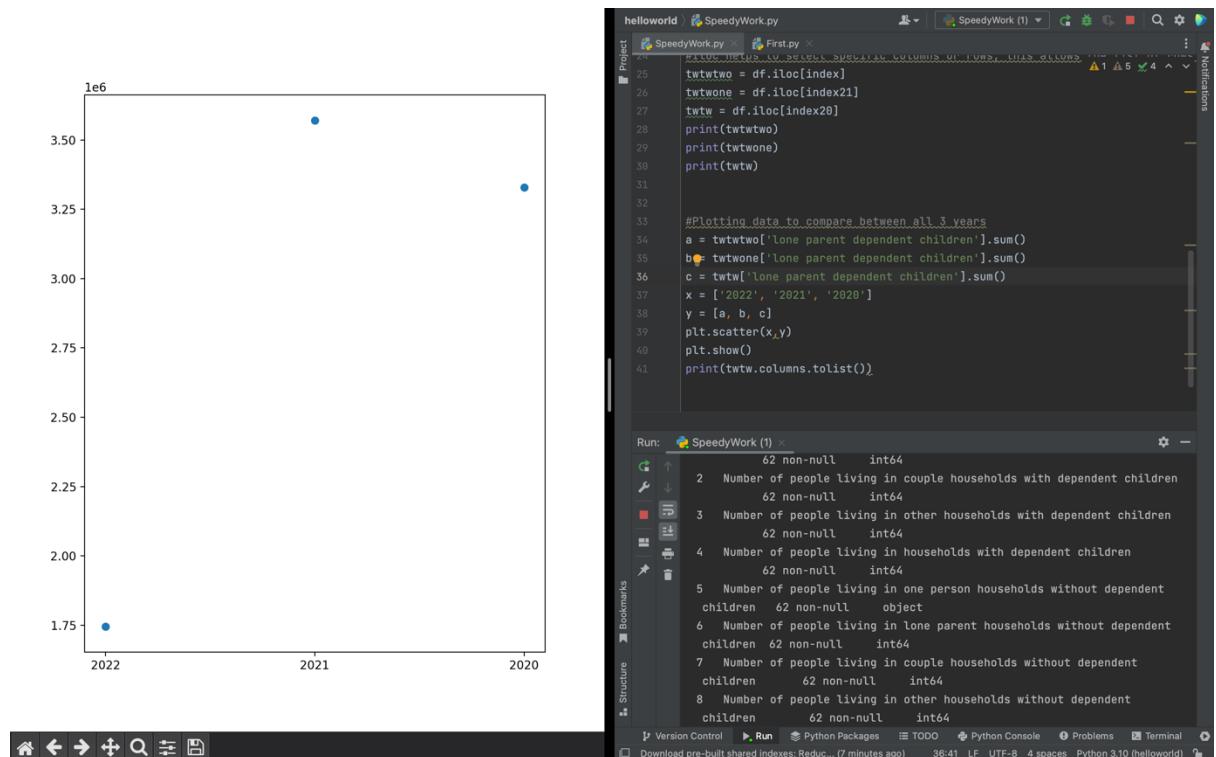


Pie chart showing the number of people living in all households, for those who are in mixed working/workless households. 2020 falls short in total numbers as only half the year was accounted for.

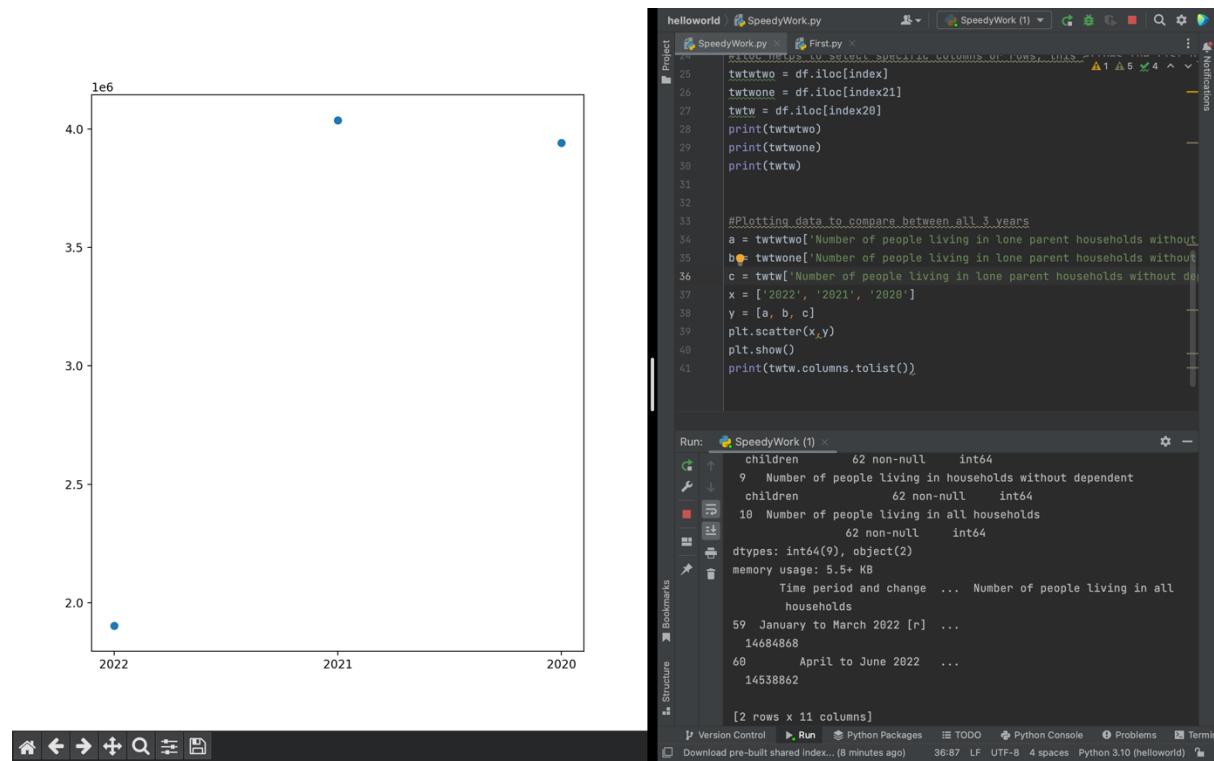
## Further Data



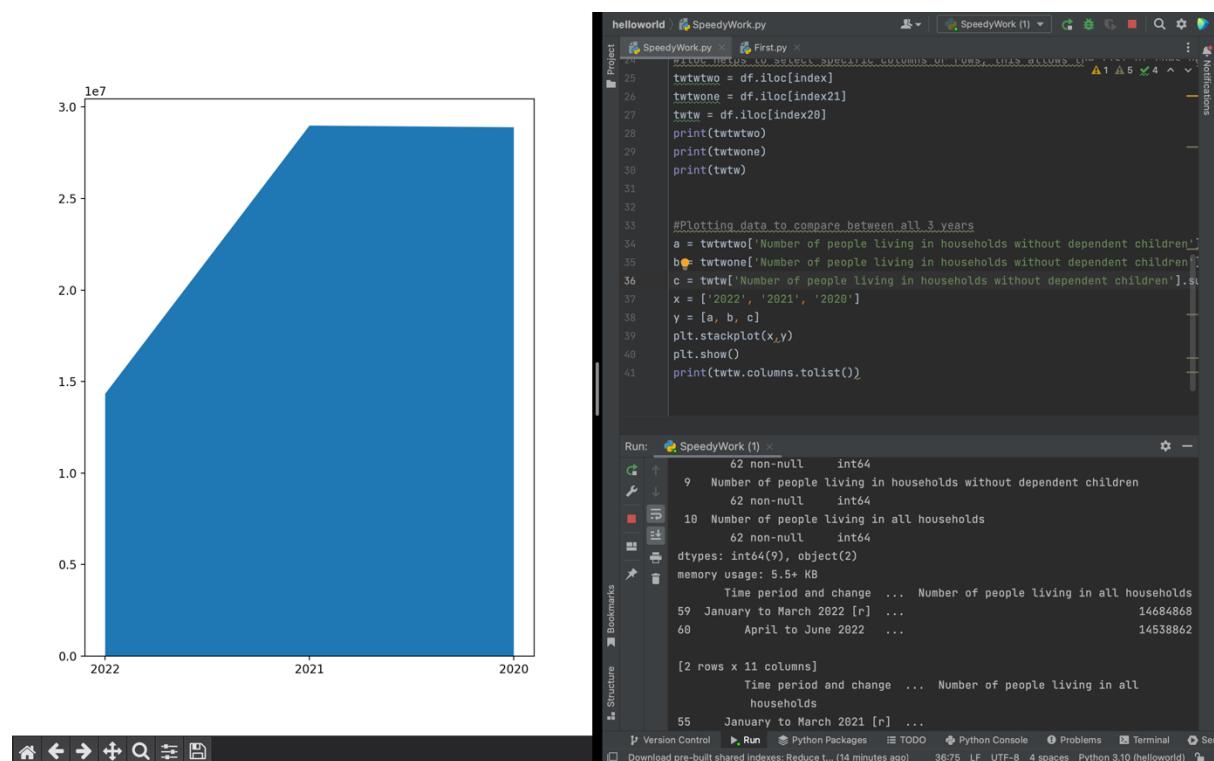
Scatter graph showing the number of people living in all households, for those who are in mixed working/workless households. Yet again, this highlights the disparity in the tallied results between the years analysed.



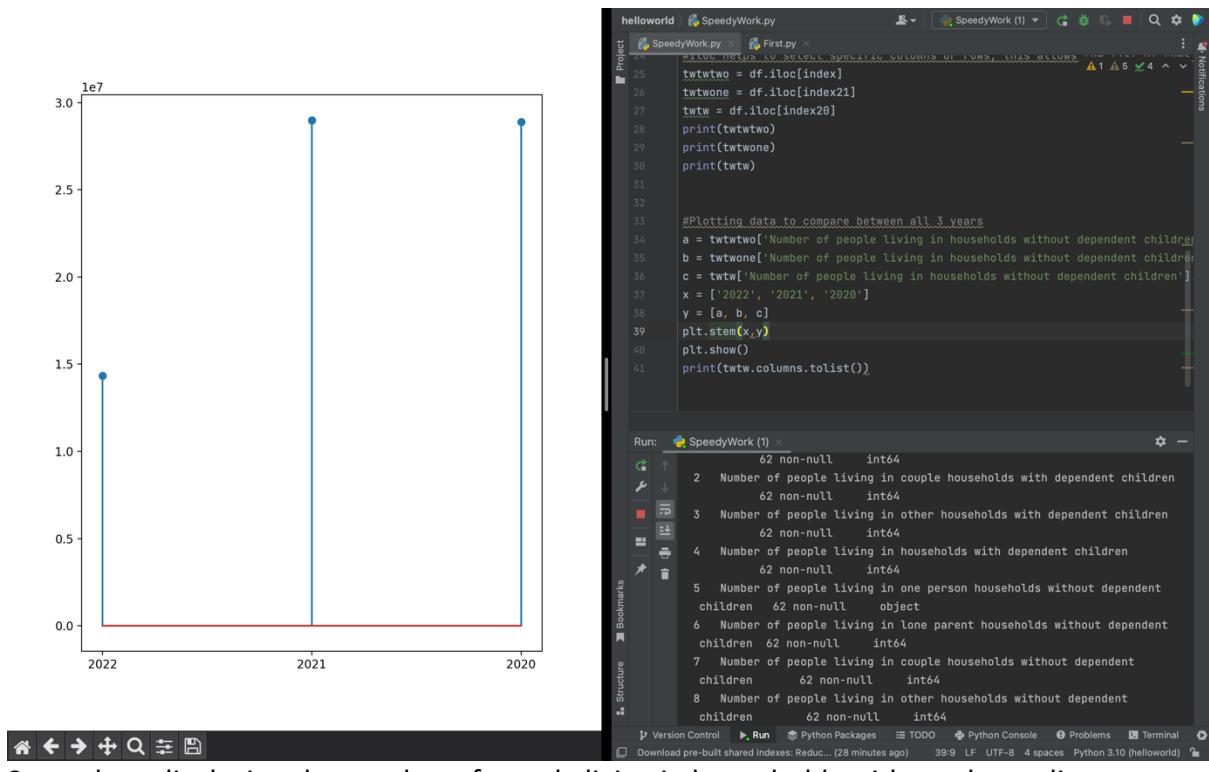
Scatter graph showing the number of people living in lone parent households with dependent children, for those who are in mixed working/workless households



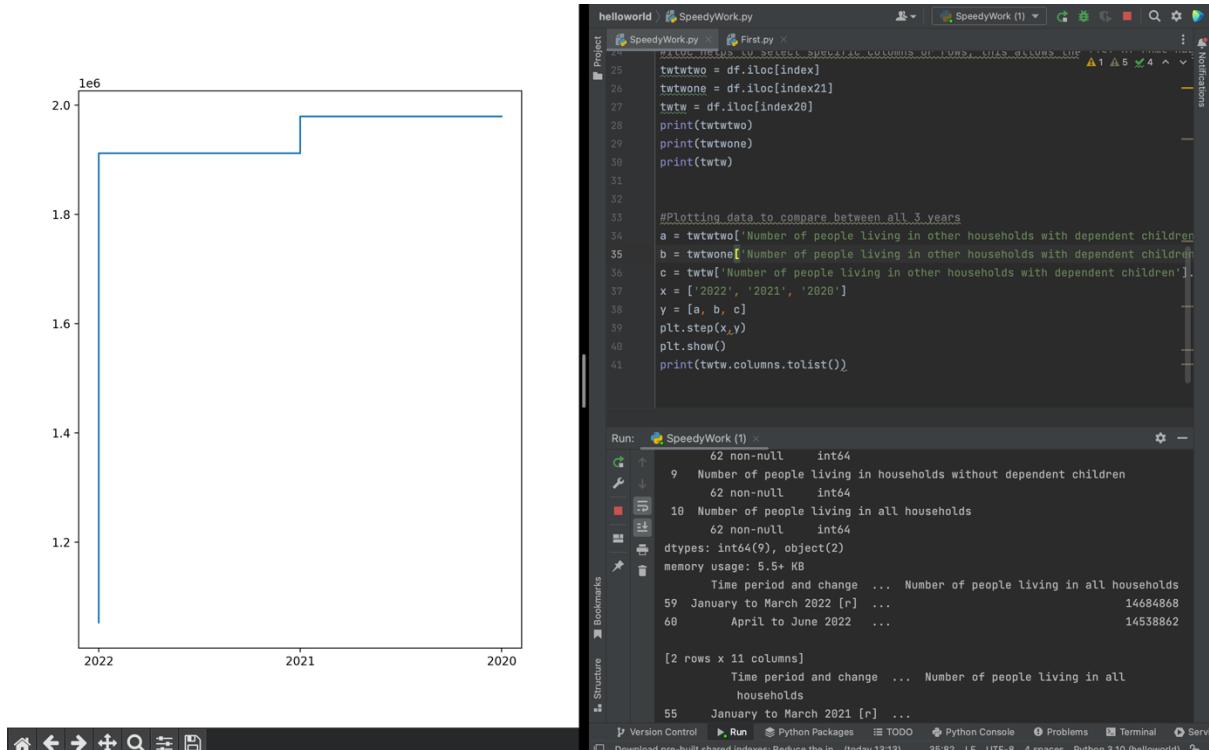
Scatter graph showing the number of people living in lone parent households without dependent children, for those who are in mixed working/workless households



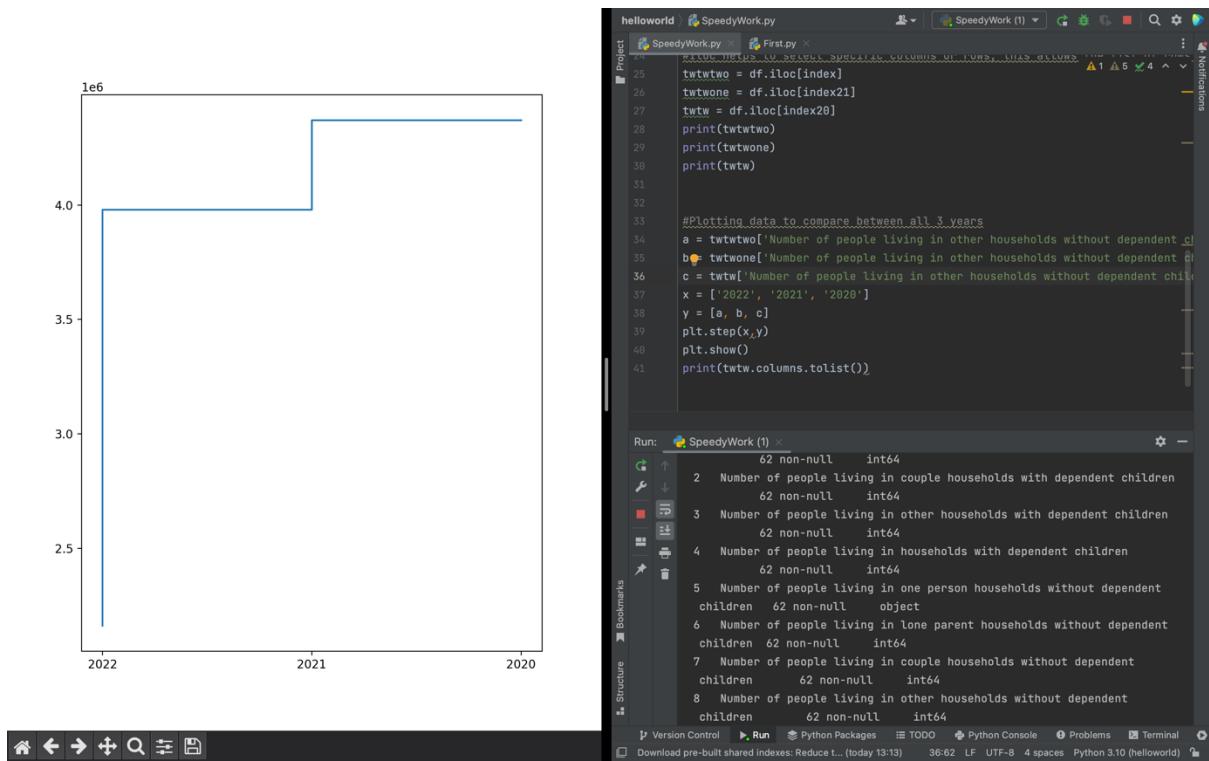
Stacked area chart displaying the number of people living in households without depending on children.



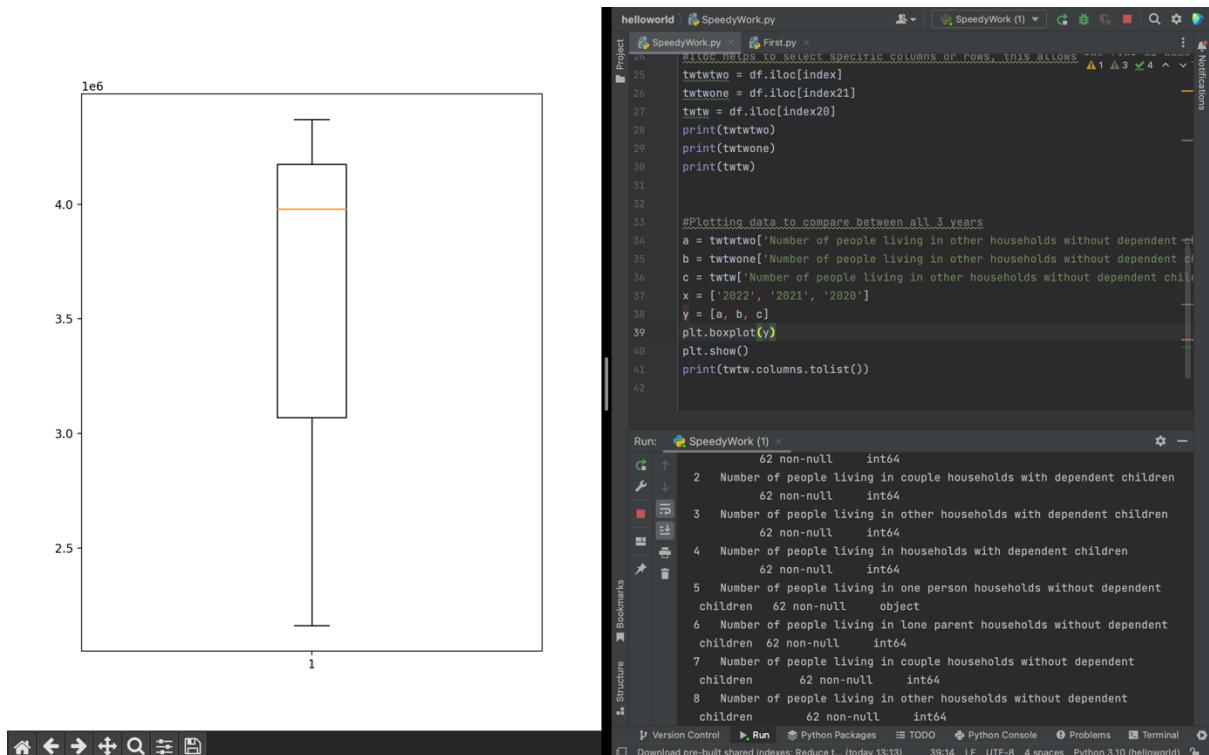
Stem chart displaying the number of people living in households without depending on children.



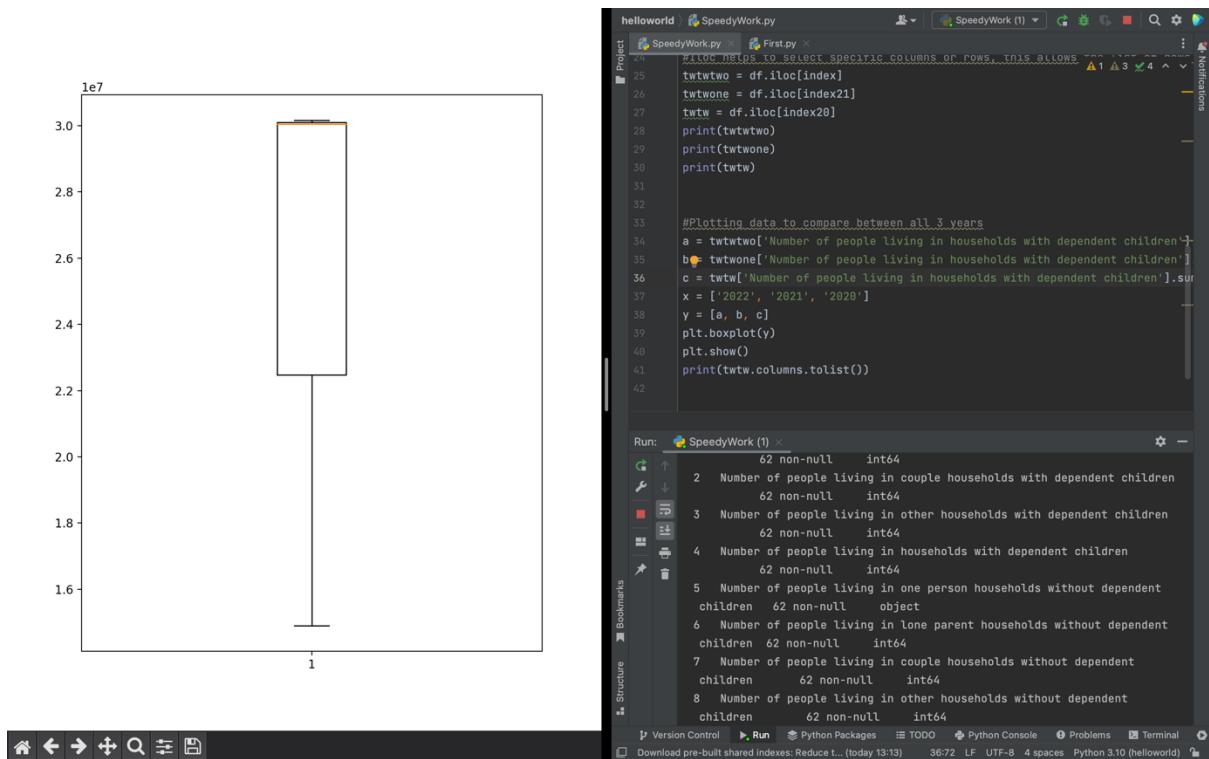
Step chart showing the number of people living in other households with dependent children.



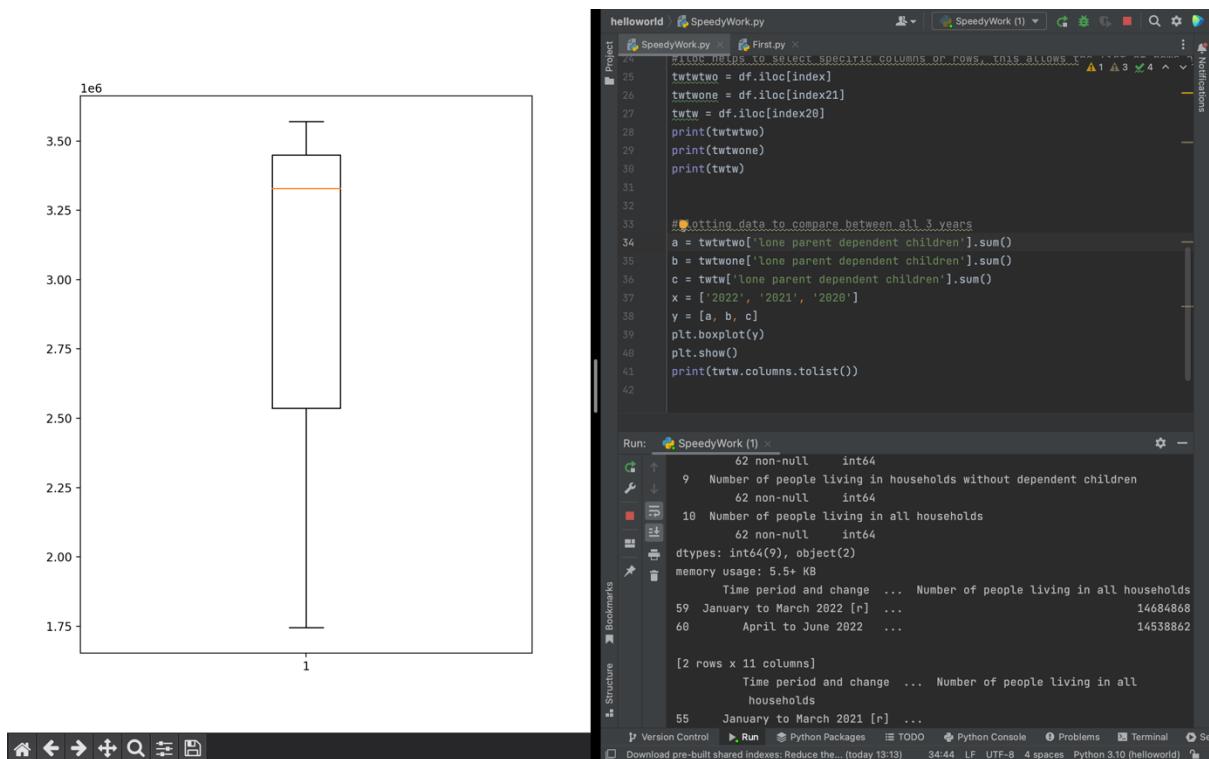
Step chart showing the number of people living in other households without dependent children.



Boxplot of the number of people living in other households without dependent children. Median value is close to 4e6, 50% of results lay under this mark.



Boxplot of the number of people living in households with dependent children. Median and upper quartile are very close if not the same.



Boxplot of the number of people living in lone parent households with dependent children.