

Mini Project 1 Justin Szabo

Datasets

Plastic Bag Dataset:

<https://data.gov.uk/dataset/single-use-plastic-carrier-bags-charge-data-for-england>

“These datasets provide the information submitted to government about single use carrier bag charging in England, including the number and proceeds of single-use plastic carrier bags issued/charged by retailers. It includes mandatory data on bags sold under the charge and voluntary data on submitted by retailers.”

Stop and Search Northern Ireland:

<https://data.gov.uk/dataset/stop-and-search-statistics-2016-17>

“Stop and Search is an operational tool used to prevent, detect and investigate crime as well as to bring offenders to justice. Police officers have a legal power to stop and search members of the public in certain circumstances, from dealing with incidents of anti-social behavior through to countering terrorism. PSNI Statistics Branch collate and report statistics on the number of persons stopped, searched, questioned and arrested under the main legislative powers.”

Newcastle Electricity Consumption:

<https://data.gov.uk/dataset/newcastle-city-library-energy-consumption>

“Monthly energy consumption (electricity, gas, water) at Newcastle City Library from January 2011” Electricity from 2011 was used.

The screenshot shows the dataset page for 'Newcastle City Library energy consumption'. The page header includes the title, publisher (Newcastle City Council), license (Creative Commons CCZero), and an openness rating of four stars. A description states: 'Monthly energy consumption (electricity, gas, water) at Newcastle City Library from January 2011.' A red 'Education' tag is visible. Under the 'DATA RESOURCES (3)' section, three CSV files are listed: 'Water consumption from 2011' (477 Bytes), 'Gas consumption from 2011' (702 Bytes), and 'Electricity consumption from 2011' (748 Bytes). Each entry has a 'Details' link and a 'Download CSV' button.

Resource	File Type	Size
Water consumption from 2011	CSV	477 Bytes
Gas consumption from 2011	CSV	702 Bytes
Electricity consumption from 2011	CSV	748 Bytes

Capabilities

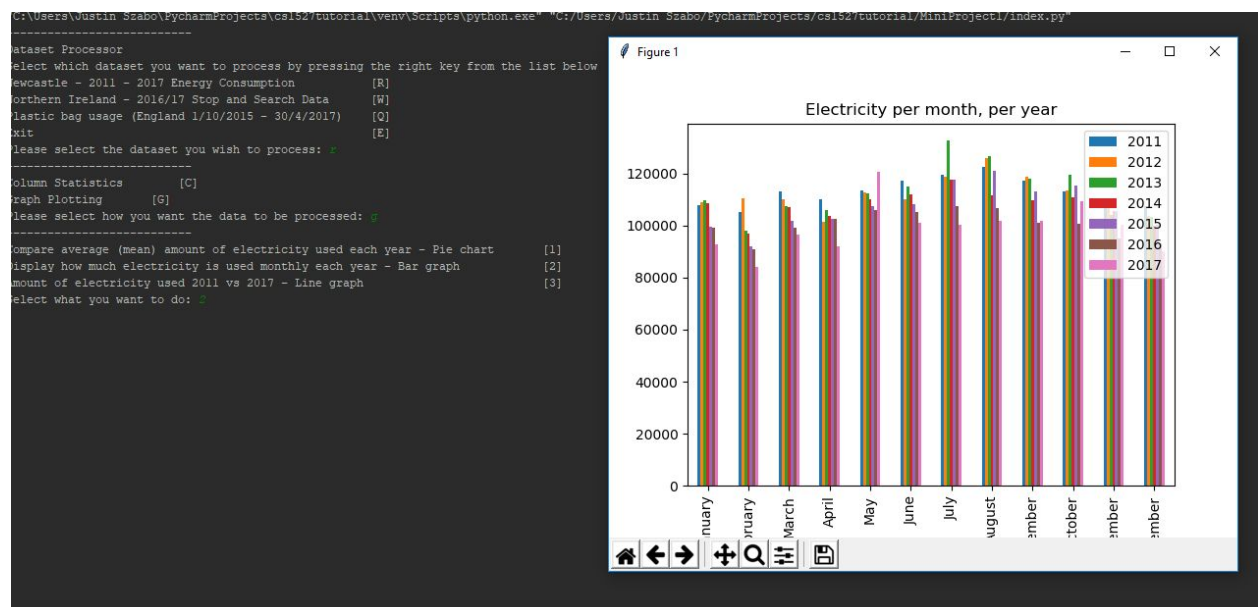
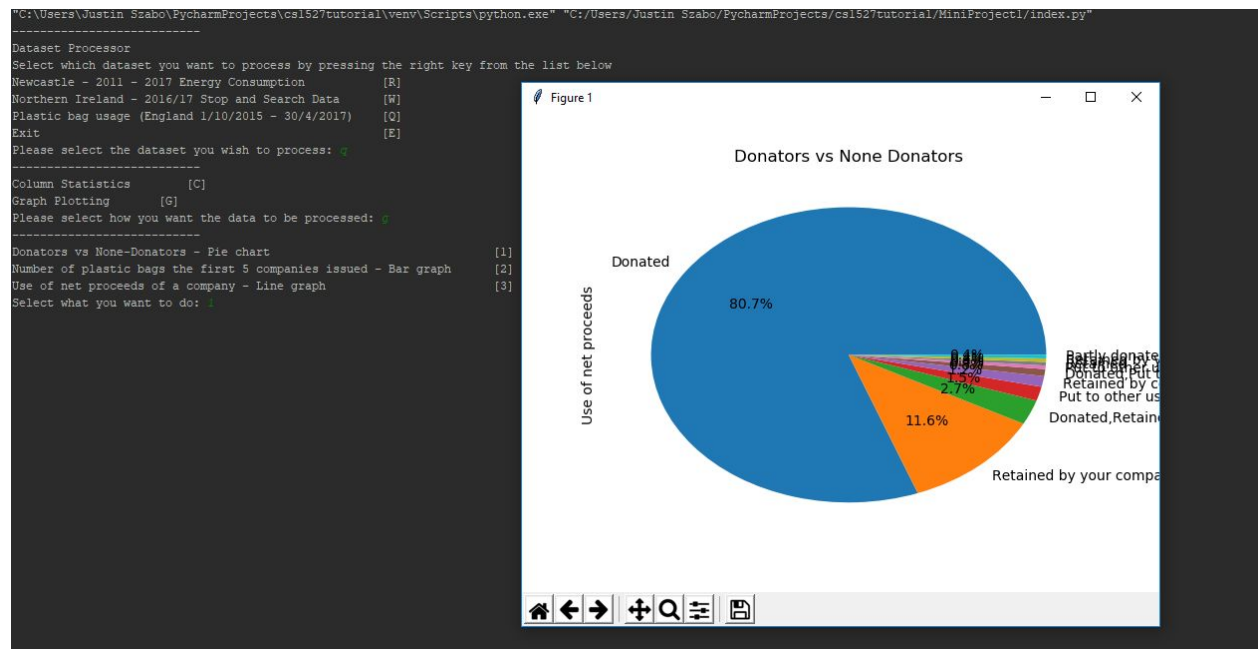
The program is capable of performing basic statistical analysis on each dataset. It can also perform more complicated statistical analysis - including making totals in new columns - on each dataset. It also supports the analysis and plotting of both categorical and numerical data. The program supports basic line graphs and bar charts, as well as some other types of charts - for example, pie charts.

The program is also capable of performing more complex data analysis including taking the data from different datasets and mapping them together performing more complex graphs with some selected data.

Screen shots

```
"C:\Users\Justin Szabo\PycharmProjects\cs152\tutorial\venv\Scripts\python.exe" "C:/Users/Justin Szabo/PycharmProjects/cs152/tutorial/venv/Scripts/python.exe" "C:/Users/Justin Szabo/PycharmProjects/cs152/tutorial/venv/Scripts/python.exe" "C:/Users/Justin Szabo/PycharmProjects/cs152/tutorial/venv/Scripts/python.exe"
-----
Dataset Processor
Select which dataset you want to process by pressing the right key from the list below
Newcastle - 2011 - 2017 Energy Consumption [R]
Northern Ireland - 2016/17 Stop and Search Data [W]
Plastic bag usage (England 1/10/2015 - 30/4/2017) [Q]
Exit [E]
Please select the dataset you wish to process: R
-----
Column Statistics [C]
Graph Plotting [G]
Please select how you want the data to be processed: C
-----
Basic Statistics
Total Electricity used per year [1]
Difference per month between 2011 and 2017 [2]
Percent difference between 2012 and 2013 per month [3]
Select what you want to do: 2 [4]
-----
2011 2012 2013 2014 2015 2016 2017
Date
January 107777 109117 109582 108664 99481 99216 92638
February 105383 110473 98032 96733 92002 90775 83980
March 113136 109980 107506 107003 101952 99088 96655
April 109962 101340 106052 103672 102460 102398 92196
May 113648 112608 112458 110164 107326 106117 120704
June 117221 109970 115136 111866 108332 105383 100999
July 119465 118610 132643 117742 117825 107382 100498
August 122614 126080 126571 111763 120904 106759 101640
September 117136 118628 118080 109739 113004 101052 101914
October 113141 113414 119439 110934 115316 100852 109249
November 108130 107416 103904 105752 105581 95170 100499
December 107326 103808 103434 99785 100189 93223 90119
Total 1354939 1341444 1352837 1293817 1284372 1207415 1191091
-----
Process finished with exit code 0

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Dataset Processor
Select which dataset you want to process by pressing the right key from the list below
Newcastle - 2011 - 2017 Energy Consumption [R]
Northern Ireland - 2016/17 Stop and Search Data [W]
Plastic bag usage (England 1/10/2015 - 30/4/2017) [Q]
Exit [E]
Please select the dataset you wish to process: R
-----
Column Statistics [C]
Graph Plotting [G]
Please select how you want the data to be processed: C
-----
Basic Statistics
Total Electricity used per year [1]
Difference per month between 2011 and 2017 [2]
Percent difference between 2012 and 2013 per month [3]
Select what you want to do: 3 [4]
-----
2012 2013 Percent Change
0 109117 109582 -0.424340
1 110473 98032 12.690754
2 109980 107506 2.301267
3 101340 106052 -4.443103
4 112608 112458 0.133383
5 109970 115136 -4.486868
6 118610 132643 -10.579525
7 126080 126571 -0.387925
8 118628 118080 0.464092
9 113414 119439 -5.044416
10 107416 103904 3.380043
11 103808 103434 0.361583
-----
Process finished with exit code 0
```



"C:\Users\Justin_Szabo\PycharmProjects\cs1527tutorial\venv\Scripts\python.exe" "C:/Users/Justin_Szabo/PycharmProjects/cs1527tutorial/MiniProject1/index.py"

Dataset Processor

Select which dataset you want to process by pressing the right key from the list below

Newcastle - 2011 - 2017 Energy Consumption [R]
Northern Ireland - 2016/17 Stop and Search Data [W]
Plastic bag usage (England 1/10/2015 - 30/4/2017) [Q]
Exit [E]

Please select the dataset you wish to process: **q**

Column Statistics [C]

Graph Plotting [G]

Please select how you want the data to be processed: **g**

Males Searched vs. Females Searched - Pie chart

Under which legislation were people searched - Bar graph

Number of people searched over financial year - Line graph

Select what you want to do: **3**

[1]
[2]
[3]

