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Online Social Networks
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I pledge my honor that I have abided by the Stevens Honor System. – Nidhi Parekh

Assignment 7: Analyze Social Network Data

PURPOSE:

Parekh.py is a program that processes the .csv file that consists of data from an Internet Core Trends survey conducted by the Pew Research Center in 2019. The purpose of this program is that using the dataset, it organizes the 2018 Income Levels by sex. This program looks at the responses of the income levels made by both males and females.

One social issue that remains today is the gender wage gap. Up to this day, women working full time are earning approximately 80% of what men earn, which is 80 cents for every dollar a man earns. I think it is an interesting topic to center this assignment around gender and income level because of how big of an issue this still is.

INPUT:

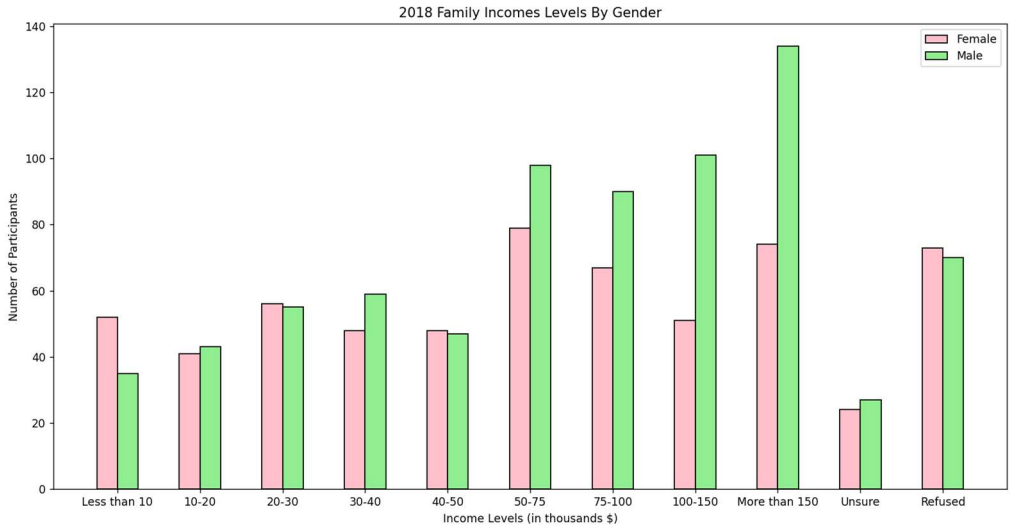
In order to run the program in a terminal window, enter python parekh.py, as shown on the console.

```
C:\Users\shiv_\Documents\CS581\Parekh_HW7>python parekh.py
```

OUTPUT:

The output from this program is in a written output printed to the console and a bar graph. The printed output contains the organized data on the number of participants and how much income a male earns and how much income a female earns.

```
Select Command Prompt
C:\Users\shiv_\Documents\CS581\Parekh_HW7>python parekh.py

----------------------------------------------ASSIGNMENT 7 - ANALYZE SOCIAL NETWORK DATA----------------------------------------------


----------------------------------------------Data on Male Incomes (Before Taxes)----------------------------------------------

----------------------------------------------Ranges of Income----------------------------------------------

1. Income < $10K: 35
2. Income Between $10K-$20K: 43
3. Income Between $20K-$30K: 55
4. Income Between $30K-$40K: 59
5. Income Between $40K-$50K: 47
6. Income Between $50K-$75K: 98
7. Income Between $75K-$100K: 90
8. Income Between $100K-$150K: 101
9. Income > $150K: 134
10. Males That Don't Know Income : 27
11. Males Who Refused to Disclose Income: 70

----------------------------------------------Data on Female Incomes (Before Taxes)----------------------------------------------

----------------------------------------------Ranges of Income----------------------------------------------

1. Income < $10K: 52
2. Income Between $10K-$20K: 41
3. Income Between $20K-$30K: 56
4. Income Between $30K-$40K: 48
5. Income Between $40K-$50K: 48
6. Income Between $50K-$75K: 79
7. Income Between $75K-$100K: 67
8. Income Between $100K-$150K: 51
9. Income > $150K: 74
10. Females That Don't Know Income : 24
11. Females Who Refused to Disclose Income: 73
```



WHAT THE PROGRAM DOES:

When the programs run, the first thing I make the program do is read the Pew_Survey.csv file. The file has a list of responses from the 'inc' and 'sex' datasets. The program goes through the dataset and organizes the data by the ranges of income and whether the sex is male and female. Afterwards, the program prints the outputs of each range of the incomes per sex to the console. For example: the number of females that earn an income of less than $10,000 is 52, as shown in the console output. The program also arranges the same data into a bar graph.

RESULTS:

Based on the output of this analysis, the pay gap between males and females seems to be larger as the income level increases. This was not surprising considering the current issue regarding the gender wage/pay gap that we still need to combat. The number of female participants is larger when the income levels are lower, for example, from the 'Less than $10,000' to '$20,000-30,000' range. When the income level goes from '$50,000-$75,000' to 'More than $150,000', the gap between the number of males and females having the same income starts to grow larger.

ANY ADDITIONAL INFORMATION:

The gender pay gap is a result of many factors, which includes highest level of education received by both genders, along with race and ethnicity. For future studies, I want to look deeper into this issue by including the highest level of education dataset, and then look into the employment status as well.