CSC 103 - HW 6

Complete each of the following exercises. To receive full credit please ensure the following:

- Submission structure follows the following:

```
HW6
    -> data
            -> poke.csv
            . . . .
    -> Q1
            -> q1.py
            . . . .
    -> Q2
            -> q2.py
            . . . .
    -> Q10
            -> q10.py
            . . . .
```

- Exercise artifacts are uploaded to your GitHub repository under a folder called `HW4` (i.e. https://github.com/<username>/carlow-me)
- Exercise artifacts are uploaded to Brightspace as a compressed `.zip` file called `<LastName>_HW5.zip`.

It is crucial that you are naming artifacts and storing files in the format mentioned above. All files that need to reference datasets should use a relative reference that refers to it's location in the `data` directory and not an absolute reference that would only work on your machine. Failure to meet any of these requirements will result in loss of points for that and any following problems.

Exercises

1. Utilizing the datasets that we've been working with, draw a graph showing the number of each type of pokemon exist (i.e. electric, fire, etc.). The graph should show the number and should show the string representation of that type (i.e. fire, electric) and not just an integer representation.
2. Utilizing the datasets that we've been working with, prompt a user for a string representation of a pokemon type. Ensure that this type exists within our dataset. If it

does, draw a graph that shows how many pokemon of that type exist within each generation of the game. An example of this would be saying "32 electric pokemon existed in generation 1, 64 in generation 2, etc.".

3. Using the formula of (5*height+2*weight+base_experience) to calculate a pokemon's strength, draw a graph that shows the average strength of a given pokemon type over each generation. Your application should prompt a user for this type and draw the appropriate graph based upon that input.
4. Utilizing the same formula above, draw a single graph that shows the average strength of a pokemon type, the minimum strength of that type and the maximum strength of that type at each level.
5. Utilizing the datasets and formulas above, draw a set of graphs in the shape of an X like the diagram described below:

```
X   X
  X
X   X
```

The graphs on the left should represent a single pokemon and the ones on the right should describe a second pokemon. These pokemon should be provided by the user. The graphs on the top row should show the height, weight and base experience for each pokemon. The bottom row should show their experience across levels 0 to 100. Based upon the average experience they achieve added to the strength we've calculated, the center graph should simply contain the name of the pokemon with the greater value.