For this assignment you will start with the program that you wrote for week 12. Your shape objects will be positioned at a point in 2-dimensional space. Your program will write a report to a text file, then read the report back in and display it.

Your main( ) method must do the following:

1. Tell the user what the program does.
2. Create the following objects and store the references to them in a single ArrayList.
    - A Circle object at point (1,1) with a radius of 10 inches and an identifier of 156
    - A Square object at point (1,3) with a side of 2 inches and an identifier of 237
    - A Right Triangle at point (3,3) with a height of 3 inches, a base of 4 inches and an identifier of 212
3. Create a text file and write the data for each object to the file. Handle any IO exceptions.
4. Read the data from the file back into your program. Handle any IO Exceptions.
5. Using the data you just read from the file, display a report that looks like the following:

```
Shape      ID  Position  Area

Circle    156  (1,1)     314.16

Square    237  (1,3)       4.00

Triangle  212  (3,3)       6.00
```

Create a UML class diagram that shows all of the classes in your design, and shows their relationship to one another. The preferred file format for your class diagram is a .PDF file.

Develop the code for your program. Compile and test your code. When you are satisfied that your program works correctly, place the complete project folder for the program into a zip file. **Add the UML file to the .zip file.**

Submit the .zip file here on Canvas by the due date.

1. ocation?
2. Find something else in this dataset that you consider interesting. Produce a graph to communicate your insight.

Submission

Upload to I-Learn a PDF file with your findings and the code used to produce your results.