

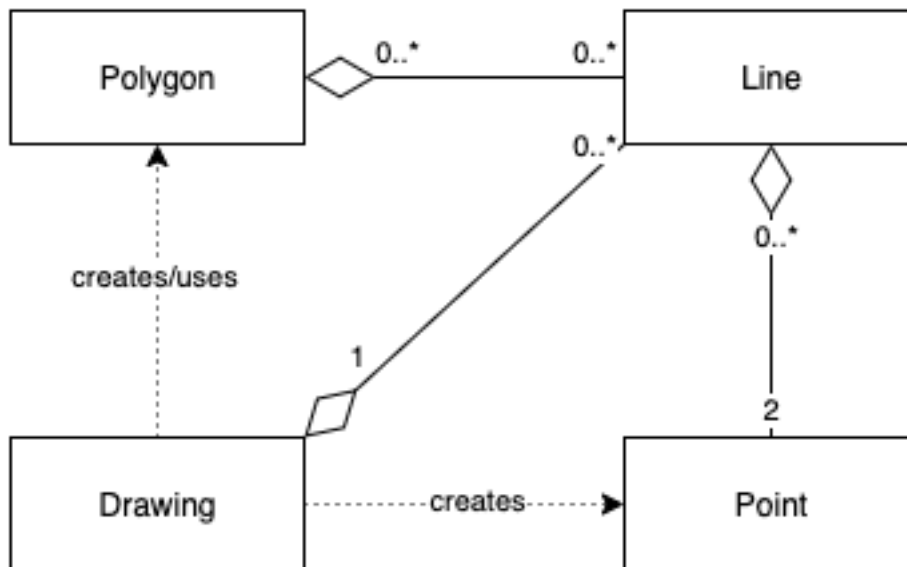
**Course:** ENSF 607 – Fall 2020

**Lab#:** 02

**Student Name:** Nathan Jack

**Due Date:** October 2<sup>nd</sup>, 2020

### Exercise 1:

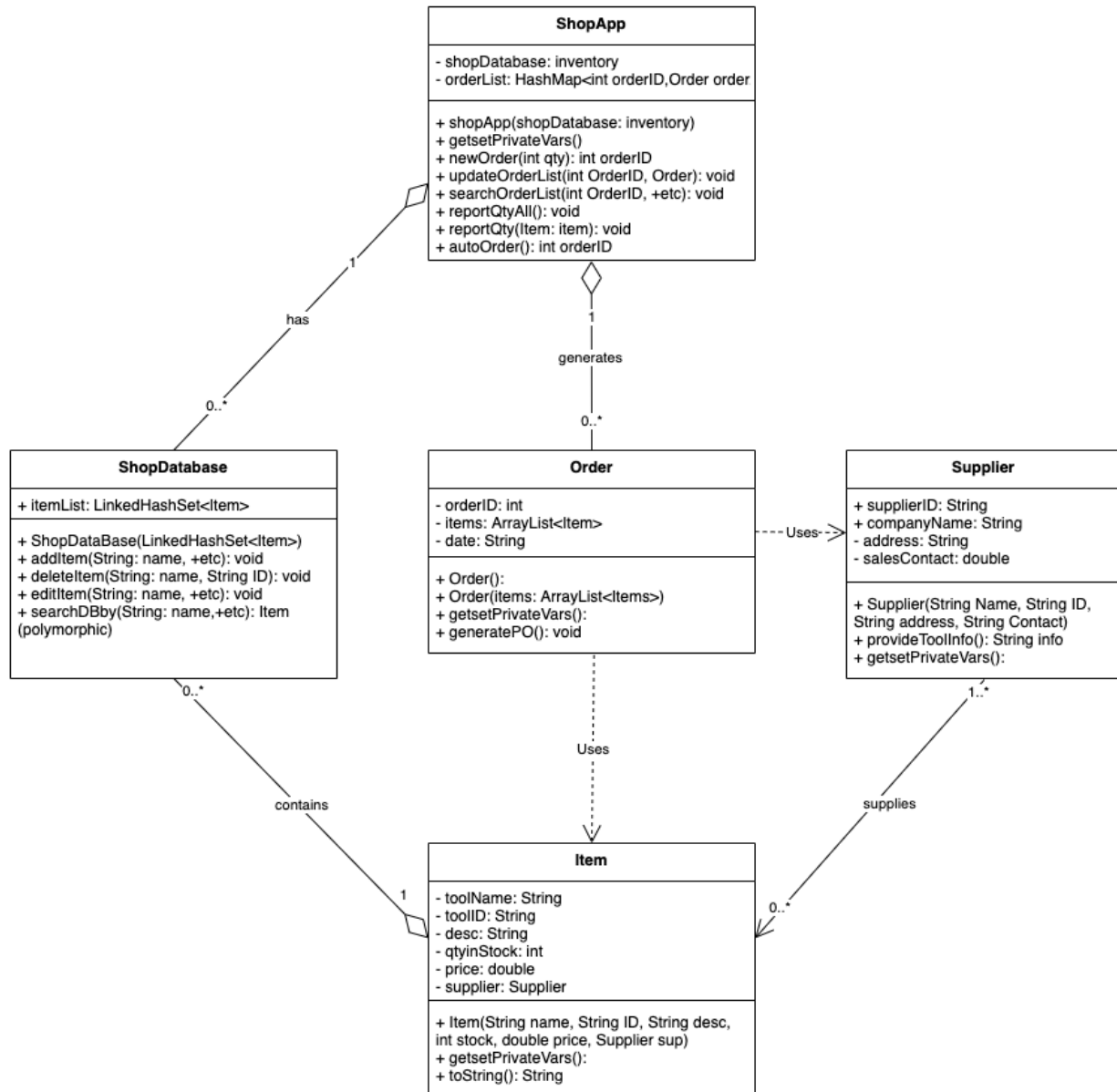


Point is self-sufficient and requires only integer inputs. Line is an aggregate of no more than two points. Polygon is an aggregate 0 or more lines but does not call them in a constructor. Drawing instantiates all of these objects, and its deletion would cause the loss of all the classes inside. But is not composed if them as the object itself does not create them. Just the main function.

### Exercise 2:

See Java Files.

## Exercise 3:



Note that instead of providing all the get/set methods for private variables I've created an umbrella function `getsetPrivateVars()` to represent each of these individual functions in a more readable way. If this project was to be coded in full the get and set methods would be further defined.

The way this diagram is laid out, an app holds a database of items, that each link to their respective supplier(s). Orders can be generated from the app, which pull information from Item objects and Supplier objects. Auto ordering can be programmed to happen whenever a `reportQty` function returns a stock less than a user spec'd value.

## Exercise 4:

See Java files and Javadoc files attached to submission. Sample game output below:

```
Please enter the name of the 'X' player: NJ
Please enter the name of the 'O' player: Sean
|col 0|col 1|col 2|
+-----+
row 0 |   |   |   |
+-----+
row 1 |   |   |   |
+-----+
row 2 |   |   |   |
+-----+
NJ, enter the row for your next X
0
NJ, enter the column for your next X
0
|col 0|col 1|col 2|
+-----+
row 0 | X  |   |   |
+-----+
row 1 |   |   |   |
+-----+
row 2 |   |   |   |
+-----+
Sean, enter the row for your next O
1
Sean, enter the column for your next O
0
|col 0|col 1|col 2|
+-----+
row 0 | X  |   |   |
+-----+
row 1 |  O  |   |   |
+-----+
row 2 |   |   |   |
+-----+
NJ, enter the row for your next X
0
NJ, enter the column for your next X
2
|col 0|col 1|col 2|
+-----+
row 0 | X  |   | X  |
+-----+
row 1 |  O  |   |   |
+-----+
row 2 |   |   |   |
+-----+
Sean, enter the row for your next O
0
Sean, enter the column for your next O
1
|col 0|col 1|col 2|
+-----+
row 0 | X  |  O  | X  |
+-----+
row 1 |  O  |   |   |
+-----+
row 2 |   |   |   |
+-----+
NJ, enter the row for your next X
0
NJ, enter the column for your next X
0
Please enter a valid cell.
NJ, enter the row for your next X
2
NJ, enter the column for your next X
0
Please enter a valid cell.
NJ, enter the row for your next X
2
NJ, enter the column for your next X
0
|col 0|col 1|col 2|
+-----+
row 0 | X  |  O  | X  |
+-----+
row 1 |  O  | X  |   |
+-----+
row 2 | X  |   |  O  |
+-----+
THE GAME IS OVER: NJ is the winner!
Game Ended...
```