

**Department of Computer Science
University of Massachusetts Lowell
COMP.4270/5460
Spring 2019**

**Programming Project [25 points]
Handed out on 3/20/2019
Due on 5/5/2019**

Shape Editor

Implement a shape editor to support following shapes:

- Line
- Triangle
- Square
- Rectangle
- Circle
- Ellipse
- Curve
- Poly-line
- Polygon

It should be possible to do following operations:

- Selection
- Translation
- Scaling
- Rotation
- Save diagram to file
- Load diagram from file

You may use an Editor such as the Chrome extension Gliffy (<https://www.gliffy.com>) as the basis for your implementation.

You can use any open source API but will need to document it with full information.

Extra Credit

- Multi-select
- grouping objects and select
- operations on group as a whole
- Draw grid
- Snap to grid
- thickness
- color
- text
- zoom in/zoom out
- pan/scrollbar
- etc

Deliverables

- Source files

- Sample Input/output
- 1-2 page report : Write about issues faced, lessons learned, any remaining bugs etc.

Deadline and Late Submissions

- The assignment is due on the date specified above at 11:59:59 PM
- Each day late will incur a penalty of 5% of the grade for the assignment; for example, if the assignment is 3 days late, the maximum grade will be 85 out of 100—15 will be subtracted from whatever grade is assigned.