

**Department of Computer Science  
University of Massachusetts Lowell  
COMP.4270/5460  
Spring 2020**

**Programming Assignment 3 [5 points]  
Handed out on 2/29/2020  
Due on 3/22/2020**

**Rubberbanding & Transformations**

Implement the following 2d transformations using HTML Canvas/Javascript. You can use Canvas primitives to draw shapes only. The transformation should be applied using rubber banding. Define appropriate event handlers to do the transformations and rubberbanding.

- Translation
- Scaling
- Rotation

Apply the transformations to the following shapes:

- Line
- Circle
- Rectangle
- Triangle
- Polygon

**Deliverables**

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

**Extra Credit**

- any other functionality .... – please document in report and code.

**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.