Project 3. Making changes to the drawing program

Due dates: Use case and MVC seq dia is due on **Monday November 25** *in D2L dropbox. Implementation plan due by Monday December 2 in D2L dropbox. All code implementation to be completed by Saturday, December 7* - **NO EXTENSIONS POSSIBLE**.

This is a group assignment.

In this assignment we make changes to the drawing program designed in Chapter 11. The source files for this program are in the Github assignment link. The three changes that are to be added are described below.

1. Drawing a Triangle. The triangle is specified by clicking on three points. The system responds as follows: Button click changes cursor. Shows a point after one click; after 2 clicks, shows a line between two clicked points; after 3 clicks, shows triangle and cursor returns to default. Undo/Redo should remove/restore entire triangle.

2. Drawing a polygon.

Button click changes cursor. After one left click, show point; after 2 left clicks show line; add another line after each left click. If right button is clicked, a line is added between first left click and the last left click and cursor returns to default. Undo/Redo should remove/restore entire polygon.

3. Moving an item.

Some item(or items) have to be selected when move is invoked; otherwise move has no effect. When the move button is clicked, cursor changes. Mouse has to be pressed, dragged some distance, and released; all the selected items will be translated by that distance. Note that if mouse is clicked at `(x1, y1)` and released at `(x2, y2)` all the selected items must be translated by `((x2-x1), (y2-y1))`. This will require that all items have a `translate()` method; see how the Delete operation is implemented for a similar example. Undo/Redo should reverse/repeat the translation.

What to turn in:

I. Use case and MVC seq dia. Due on Monday November 25. NO EXTENSIONS. For each of the features being added (Triangle, Polygon and Move), do the following: *(i) Write the detailed use case, and (ii) construct a sequence diagram (using M, V and C only).*

II. Implementation Plan. Due by Monday December 2. NO EXTENSIONS. For each of the features being added (Triangle, Polygon and Move), answer the following: What modifications should we make to existing classes? What classes should we add? Describe the purpose of each class, and for each method in the class, write a sentence explaining what it does. Trace through the

sequence of actions of the actor, and the action performed by the methods in the various classes that are activated, when the feature is being used by an actor.

III. Code and implementation report. Due by Saturday December 7. No extensions. The code should be submitted in Github. The report should be submitted to D2L, containing the following:

Any work sharing issues.

A link to a video demonstrating the testing. Create a zoom recording. You can share a zoom link or a link from mediaspace. Make sure that it is public. **DO NOT UPLOAD VIDEO FILES.** Test all the features that you have implemented; apply the *undo* and *redo* operations as you run the tests.