# SOM Final project

October 28, 2019

## Introduction

In this exercise you are going to build a Bridge. That means writing code, but you have already experienced that you can obtain impressive results with little programming.

You start with basic code that should look familiar. It is a simplified version of the Shape program from the first lesson. The extended version that you are supposed to deliver gives the user the possibility to switch between two representations. The first representation (Graphical) is what you already see. The second one is a textual vector graphics representation. It could be extended to an XML format, such as SVG. You have to add this second representation.

We will consider only rectangles and triangles, both being build from straight line segments. The Bridge pattern prevents you from writing double code to draw the shapes. Needless to say that code duplication has devastating effects on the grading ($< 4$).

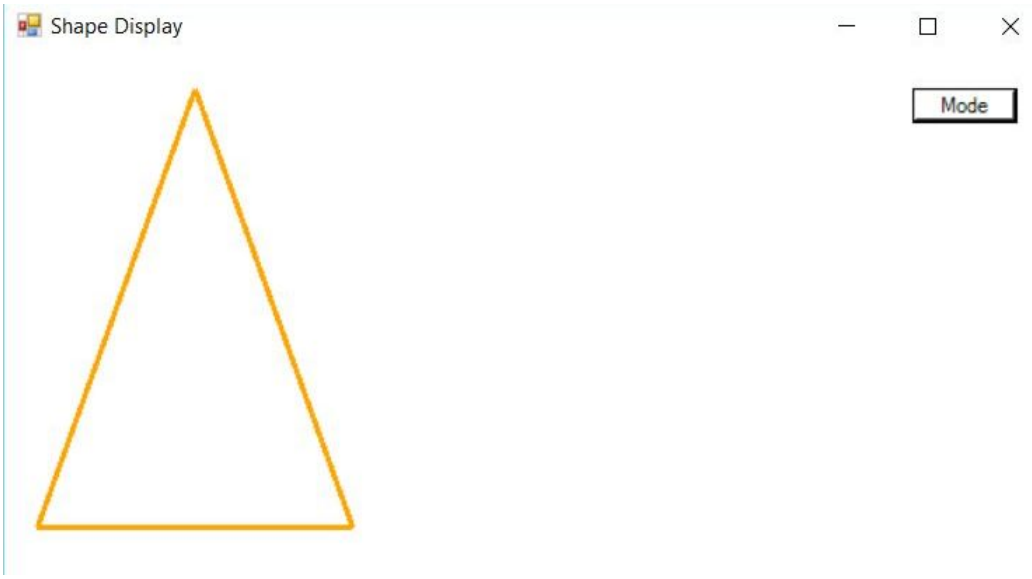
Note that the given code is compact. The amount of programming you have to do is very limited. Again, the amount of thinking required is a bit more demanding. Be sure that you understand the material on the Bridge pattern very well.

## The two representations

You are already familiar with this kind of screen.

In the given version, the button is inactive. When you have realized the bridge, the button enables you toggle between the two representations.


The some holds for triangles. They are build from three straight line segments.




Toggling between graphical representation and textual representation using the Mode button:

## The given code

The code deals with one shape only. In the main program, a rectangle is defined, but for testing purposes, you can easily switch to the triangle shape. The Mode button is already present, but does not work yet. The two examples give a complete illustration of the textual representation.

Of course, you have to switch between the two modes somewhere in the code, but be sure that you do it on the right place. That is why you are supposed to make a class diagram first and discuss it with a TA.

## The deliverables

You are supposed to submit a zip file containing an describing document: pdf, max 2 pages, containing the class diagram, and the code (the same way as the given code). The document contains your names and student numbers in the heading.