# Homework: JavaScript Object-Oriented Programming

This document defines the homework assignments from the ["OOP" Course @ Software University](https://softuni.bg/trainings/coursesinstances/details/8). Please submit as homework a single zip / rar / 7z archive holding the solutions (source code) of all below described problems.

## Shapes

Define class **Shape**. Each shape has **x**, **y** and **color** (in hexadecimal format). Define the following shapes:

* **Circle** – holds **radius**
* **Rectangle** – holds **width** and **height**
* **Triangle** – holds three **points** (x, y)
* **Segment** – holds two **points** (x, y)
* **Point –** holds **points** (x, y)

Each shape should hold a **draw()** method for drawing itself on Canvas. Add all shapes in a **module**.

Design the described shapes using best practices of OOP in JavaScript. Use proper **inheritance**, **encapsulate** all data and **validate** the input. Override **toString()** to print information about each object. **Avoid code repetition**.

## Canvas Geometry API

Create a **Web** **Geometry API** for drawing geometrical shapes on Canvas. The API should support the following functionality:

* **Creating** any of the shapes from the previous problem and **rendering** them on Canvas
* Receiving all input data from a **form** (the shape chosen from the dropdown should generate a **different input field** depending on the input parameters)
* **Displaying all drawn shapes** in a list with **detailed information** about each one
* **Removing** shapes from the canvas using the **minus button**
* \* Changing the **z-index** of a shape (i.e. setting a shape over another or vice versa) using the **arrow buttons**

The image below is merely a sample. Styling the page is optional.

