Project1.html

set browser page title to “Project 1: Self Portrait”
link relationship to W3 style sheet

create light grey panel
    display heading “Programming for Design (11055)
    display sub-heading “Project 1 – *Self Portrait*”
    display paragraph “Keir Herbert (u3211239)”
end panel

create light grey container for control panel
    create dark grey container for title bar
        display in bold “Controls”
    end container
    create container for text labels
        display paragraph “red”
        display paragraph “green”
        display paragraph “blue”
        display paragraph “shape size”
        display paragraph “frame rate”
        display paragraph at position relative to top (20px) “geometry”
    end container
end container

point to p5.js script source
point to coordinates.js script source
point to getScaleFactor.js script source
point to createTriangle.js script source
point to selfPortrait.js script source

selfPortrait.js

```
function setup
    constant matrix = 200
    var scaleFactor = getScaleFactor
    create a canvas size = matrix * scaleFactor
    position canvas 150, 75
    shape outline stroke = off
    create redSlider
        range = 0 to 255
        initial = 63
        width = 140px
        position = 8, 255
    create greenSlider
        range = 0 to 255
        initial = 81
        width = 140px
        position = 8, 292
    create blueSlider
        range = 0 to 255
        initial = 181
        width = 140px
        position = 8, 329
    create heightSlider
        range = 2 to 48
        initial = 12
        width = 140px
        position = 8, 366
    create diameterSlider
        range = 2 to 48
        initial = 8
        width = 140px
        position = 8, 366
    create framerateSlider
        range = 1 to 24
        initial = 5
        width = 140px
        position = 8, 403
    create shapeSelector
        option 0 = triangular
        option 1 = circular
        width = 95px
        position = 24, 244
        default = 0
end function setup


function windowResized (event driven when window moved or resized)
    var scaleFactor = getScaleFactor
    resize canvas (matrix * scaleFactor), (matrix * scaleFactor)
end function windowResized

function draw
    clear screen
    set framerate = framerateSlider value
```

```
        set fill = redSlider value, greenSlider value, blueSlider value

        let row = 0
        do while row < length of coordinates array
                var x = coordinates(row, 0) * scaleFactor
                var y = coordinates(row, 1) * scaleFactor
                row = row + 1
                switch case based on shapeSelector value
                        case 0
                                hide circle diameterSlider
                                show triangle heightSlider
                                var height = random number between heightSlider value and 2 (inclusive)
                                call createTriangle(x, y, height)
                                break out of switch
                        case 1
                                hide triangle heightSlider
                                show circle diameterSlider
                                var diameter = random number between diameterSlider value and 2 (inclusive)
                                plot circle(x, y, diameter)
                                break out of switch
        loop
end function draw
```

getScaleFactor.js

```
function getScaleFactor
        if screen.Height < 720 then
                return value of 2
        if screen.Height < 900 then
                return value of 3
        if screen.Height <= 1080 then
                return value of 4
        if screen.Height < 1440 then
                return value of 5
        else
                return value of 6
end function getScaleFactor
```

createTriangle.js

```
function createTriangle
        receive values and assign to variables x, y, height
        var segment = height / 3
        var xPoint1 = x
        var yPoint1 = y - segment * 2
        var xPoint2 = x + segment * 2
        var yPoint2 = y + segment
        var xPoint3 = x - segment * 2
        var yPoint3 = yPoint2
        draw triangle(xPoint1, yPoint1, xPoint2, yPoint2, xPoint3, yPoint3)
end function createTriangle
```

coordinates.js

```
var coordinates as pseudo-multidimensional array
populate with data line-by-line
```