CSC 135, Spring 2020
Dr. Urska Cvek
<u>Lab 3</u>
Assigned: 02-11-2020
Due: 2-22-2020 by 7 am

Problem 3.1

The painter Mondrian is known for paintings that are made up of rectangles of different colors arranged together in patterns like the one below. Write an application that displays a Mondrian-like picture in a window using *JavaFX* (you are not allowed to use panels or frames). There must be at least nine rectangles, and they must be aligned so that they fill the window without any gaps. There must be at least two different colors, one of them you have to create (using the Color class) and at least two different sizes of rectangles. Use *Mondrian* as the class name.
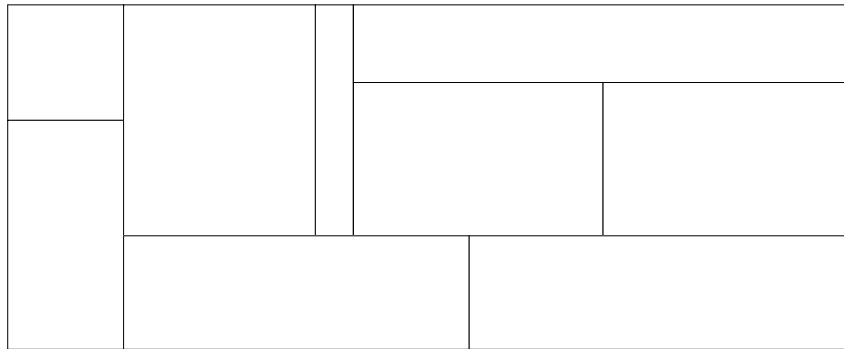
Problem 3.2

Write an application with class name *EuclideanDistance* that reads the (x, y) coordinates for two points from the user. These four integer values should not be read from the user one by one, but rather as a single String, and then converted into their numerical value using a wrapper class. Compute the distance between the two points by using the formula for Euclidean distance $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$. Print out the final distance. Make sure to use the appropriate methods from the Math class.

Problem 3.3

Write an application that prompts and reads the radius of a sphere from the user and prints its volume, and surface area, together with the radius that the user input. Use the following formulas, where *r* represents the radius. Make sure to print the output formatted to four decimal places. Your class should be named *SphereCalculator*.

$$Volume = \frac{4}{3}\pi r^3 \qquad\qquad Surface\ area = 4\pi r^2$$

Make sure to use the Math class for the value of π.

Answer above question as a programming project in NetBeans.
<u>Remember to use the Lab Submission Guidelines when submitting your work!</u>