

COMP10062: Assignment 1

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The Assignment: Constellations

This assignment is about variables, data types and flow of control. You will use the `FXGraphicsTemplate` for this assignment (or the `FXAnimationTemplate` if you decide to use animations).

Instructions

Use the `FXGraphicsTemplate` for this assignment. Change the class name to something meaningful and change the window title, and size of the stage to whatever you want.

When your program runs, the first thing you should do is create a star field by displaying a whole bunch of randomly-placed stars (i.e. small circles or squares) on a black or very dark blue screen. You can use the formula `Math.random() * MAX` to generate a random value between 0 and MAX. It's up to you how many stars you display in this way but it should be enough to look like the actual night sky. To make it look more realistic, you could also vary the size of the stars.

Then you should have a dialog with the user (don't show the JavaFX stage until after this dialog is over). This dialog should ask the user to enter a series of X and Y values that will represent stars in a constellation.

Make sure the user cannot enter any x or y values that would appear off the screen.

As the user is entering (legal) values, you should be drawing stars in the screen and connecting each star to the last one by drawing a line. You can decide exactly what all this will look like, but your stars should be different enough that they will stand out from the other stars that are already on the screen. When the user is finished, connect the last star to the first one.

Now ask the user for the title of their constellation. Draw this title somewhere on the screen using a nice font and color, and display your own programming credits on the screen as well (i.e. "program by Josephine Smith" or something like that).

Finally, show the stage.

Extra challenge 1: Use the `FXAnimationTemplate` instead and add some animation effects...

Documentation Standards

Don't forget to follow the Documentation Standards for the course (i.e. Javadoc commenting, meaningful variable and class names, consistent indenting). See **Documentation Standards** on eLearn.

Handing In

You have approximately 1 week to complete this assignment. See the due date and time on the drop box. Hand in by attaching a zipped version of your `.java` (not `.class`) file to the drop box.

Evaluation

Your assignment will be evaluated for performance (40%), structure (40%) and documentation (20%) using the rubric in the drop box.

Extra challenge 2: Add images of planets, moons, etc.

```
Image img = new Image("imagename.jpg");  
gc.drawImage(img, x, y);
```