Homework Assignment
2D Vector Graphics: Trees

1. Given P1(10,10), P2(10,20), we would like to rotate this line counter clockwise by 30 degree with respect to P1, find the new point P'2 after the rotation.

2. Write short programs (C/C++ or python) as described below:
(2.1) Write a short program A (C/C++ or python) to compute Translation;
(2.2) Write a short program B (C/C++ or python) to compute Rotation; and
(2.3) Write a short program C (C/C++ or python) to compute Translation and Rotation with pre-processing and post processing for Question 1.
Note: In your programs (A, B, and C) prompt the user to enter their input parameters for the corresponding computation.

3. Use Unity Roll-a-Ball Tutorial (1) Setting up the game, (2) moving the player, and (3) moving the camera) to finish a step by step operation guide for each tutorial operation. List your answer in a table format.
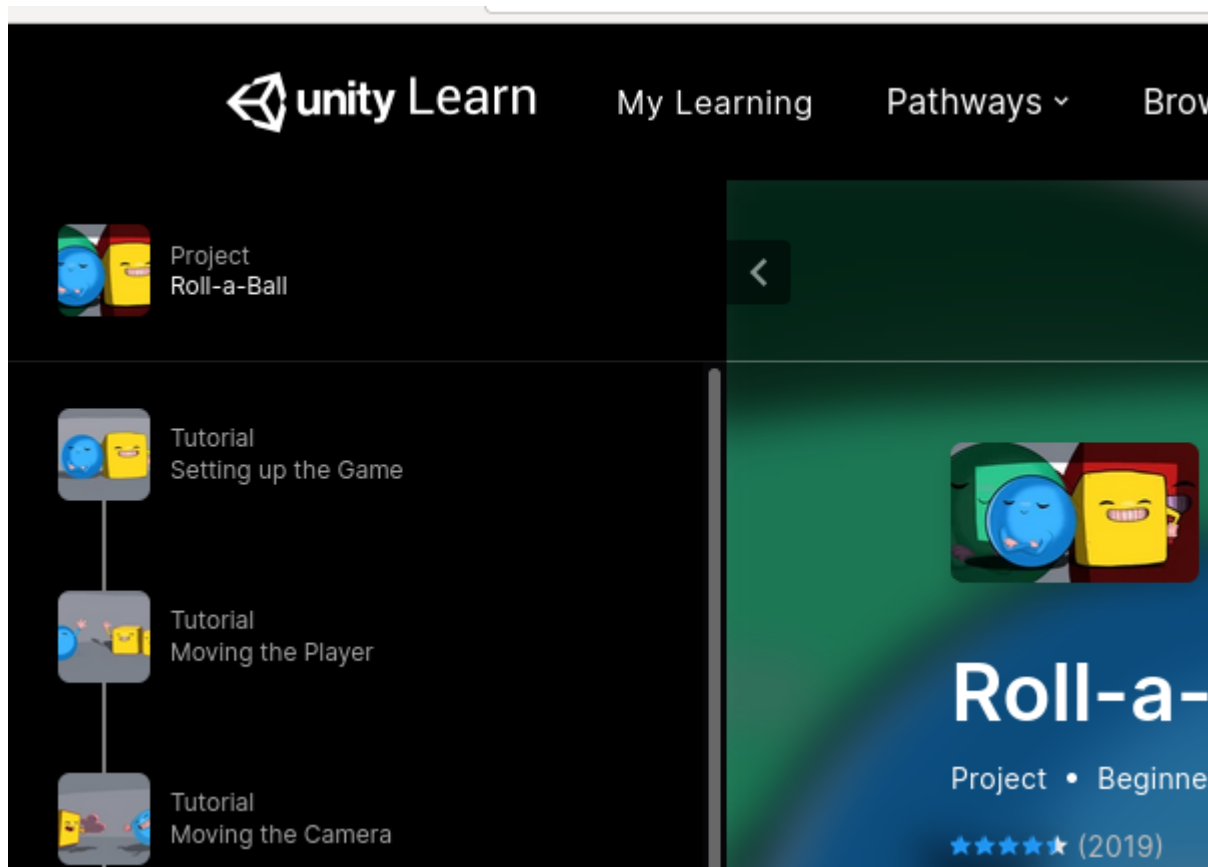
(END)

Figure 2. Select "roll a ball from" the Learn window under project.

4. Go through this training and build your interactive graphics to learn:

(1) Use Unity Editor and its built-in capabilities to set up a simple graphics environment;

(2) Write your own custom scripts to create the game functionality, as simple as "hello, the world";

(3) Create a basic user interface to improve the game experience, keep it very simple please, do not over design at this point. All you need is to get yourself familiar with UI;

(4) Build your interactive graphics, e.g., a game, so others can play it.

5. Submit your design on Canvas and in email, and prepare show-and-tell in class.

(END)