Physics and Animation (Fisica library)

Instructions:
     Please download the Fisica library and import it to each file created before running. This can be done by clicking Sketch -> Import Library -> Add Library, scrolling down to Fisica, selecting it, and clicking install. One this is done it should appear under the Contributed section of Sketch-> Import Library. When Fisica is selected here, it should add some lines of code to the beginning of your file.

     All parts of lab questions that have **R** at the beginning are mandatory, and their submission by each student is required. The parts of each question that begin with **O** are open-ended enhancements for further investigation into course material. These should be completed only after the mandatory parts of the lab are completed, and are not explicitly required for submission. If you choose to complete further optional add-ons, you are welcome to explore your own options, and not just the suggestions provided. Submit a zip document to the dropbox folder L0 on LEARN. The document should contain separate folders for the following files:
  ● **L4_FisicaBounce**
  ● **L4_AirHockey**
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Lecturette: Different functions for Fisica, and different bodies available. Pachinko example
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1. FisicaBounce

  a. **R** Implement a bouncing ball using the library Fisica. Do this by creating a ball using the Fisica function `ball = new FCircle(ballSize)`. Don't forget to explicitly add the ball to your Fisica world. Restrict the ball to bounce within the canvas by setting edges. Make it so that the ball will never stop bouncing by itself, by changing the values of the ball's restitution and damping

  b. **O** Change the background colour whenever the ball hits any edge. This may be done using the `contactStarted` function.

2. AirHockey

  a. **R** Write a sketch that can be used to play the game air hockey using Fisica. To do so you will need 3 circle objects (a puck and 2 goalies) and static polygons at the rink's edges (to define where the nets are). Control one of the goalies by dragging your mouse. Have the opposing goalie move back and forth across the net at a steady speed. Add a puck that bounces off the sides of the canvas 'rink', and off the goalies. There is no gravity in any direction in this 2D version of air hockey.
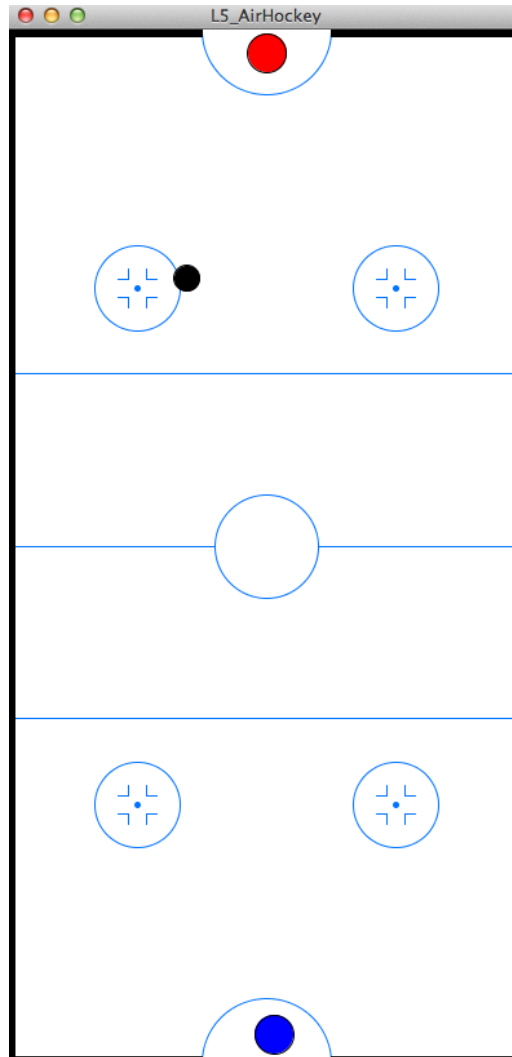
b. **O** Add an extra feature to your game, which can be creating background lines on the rink, having the opposing goalie track the puck to make saves, updating the colour of the goalies, etc.