Assignment 1

Starting from the game developed in the Roll-a-Ball, modify the game to add a PAC-Man like logic to the game. Rather than just having one type of cube to be collected, change the game to have two different types of cubes:

Type 1 Cubes: These cubes can be picked up at any time in the game, but when a Type 1 Cube is picked up for the next P seconds, it is possible to pickup a Type 2 cube. Each Type 1 Cube will be yellow with a green + sign (texture) on it.

Type 2 Cubes: A Type 2 cube can only be picked up during the P second time interval after a Type 1 cube has been picked up. During that interval all Type 2 cubes will be green with a red + sign on the cube (a texture), otherwise they all will be red with a ! sign on the cube. If the sphere collides with a Type 2 cube when it is not in a collectible state, the ball should bounce off of the cube and another Type 2 cube should appear in a random empty spot on the game board. That is, when the new Type 2 Cube appears it should not touch any other object.

The time interval P should start off at 10. After each time a pickup interval expires, P should be decreased by 1 until it reaches 1 second. It will stay at 1 second until the game ends.

1. Look at the kinematic state for rigid bodies.