In this assignment, you will move a “player” image around a canvas by using user inputs. This image’s top-left corner will move the direction you press on the user controls.

1. Create a new html file called “FirstnameLastname.html” (your name) and save it in the “canvasMover” folder in this DocPac. If there is no folder with this name, create it.
2. In the html file, create a canvas element that is 800 pixels wide and 600 pixels tall
3. Create a javascript object to represent the player’s avatar with the properties *x, y, w, h, img*.
   1. x and y represent the horizontal and vertical position of the top-left corner of the player’s avatar.
   2. w, and h represent the width and height of the player’s avatar
   3. img represents the relative file path to the image you will use for player’s avatar
      1. download or create an image
      2. try to keep it small
4. Determine if you want to use keyboard, gamepad, or touch controls
   1. Set up the program to read up, down, left, right from your chosen control scheme
5. Determine an input speed for your control scheme from 0 to 1.
   1. Gamepads are easy, as the joysticks already measure a float value which you can multiply by
   2. Touch controls can read the distance of the touch from a center point to achieve a gamepad-like float value, or have touch buttons which act like keys (below)
   3. Keys are either on or off
6. Using requestAnimationFrame(), create a function that does the following:
   1. If any of the direction controls are being pressed, increase or decrease the appropriate X and Y values of the player for that direction. This can be accomplished by multiplying the user’s control input amount by a set player speed (2 is a good number to start)
      1. For example, pushing half-left on a gamepad joystick will make the player change their X value by -0.5\*2. Pressing the down key will increase the player Y by 1\*2.
   2. Do not allow the player’s box to leave the canvas
      1. If the x or y is less than 0, make it equal 0
      2. If the x+w or y+h is greater than the canvas width or height, set it to the canvas width - w or the canvas height + h. (respectively)
   3. Erase the screen by drawing a filled rectangle over the entire canvas.
   4. Draw the player’s image at their X and Y location with their width and height
   5. If you are using touch controls, you must either draw a box if you are using gamepad-like controls, or four buttons if using key-like controls.
   6. In t he top left corner, draw text on the canvas that displays the following:
      1. If you chose gamepad, touch, or keyboard
      2. The current X and Y values of the player’s avatar
7. Test your work thoroughly before submitting