

Lecture 2 Challenges Worksheet



Challenge 1: Make the ball move and bounce off the edges of the canvas.

Hint 1: Check the 'speed' property of the ball.

Hint 2: The ball has an event block for reaching the wall, and a function call for bouncing.

Challenge 2: Give the dot a random heading every time pacman eats the dot and it reappears in a random location.

Hint 1: Look at the heading property setter in the ball component.

Hint 2: Look at the other randomization blocks we built as an example.

Challenge 3: Make it so that the dot moves a bit faster every time it is eaten by pacman.

Hint 1: Use both the getter and the setter of the ball's speed property.

Hint 2: Use an addition block in the math section.

Challenge 4: Make it so that each dot is worth 1 point more than the previous dot.

Hint 1: You'll need to create a new variable called ballValue to store how many points each ball is worth.

Hint 2: Instead of increasing the score variable by 10, increase it by the value (getter) of ballValue.

Hint 3: Increase the value of your new variable by 1 each time.

Challenge 5: Add a boost button, increasing pacman's speed temporarily, only as long as the boost button is being held down.

Hint 1: You can easily place the boost button in between the 'left' and 'right' buttons in your horizontal arrangement.

Hint 2: You will need to use two events: one for when the button is 'pressed down' (to increase speed), and another event for when the button is 'released up' (to return to normal speed).

Challenge 6: Add a reset button to reset all variables/properties that need resetting

Hint 1: Because we're running out of screen space on our app, you'll need to add another Horizontal Arrangement so that the reset button is beside the score label.

Hint 2: Use the setters of the ball speed property and the variables score and ballValue (the variable you created in Challenge 4).