

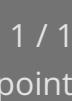
✖ Try again once you are ready.

Required to pass: 80% or higher

You can retake this as many times as you'd like.

Back to Week 2

Retake



1. Which of the following commands creates a variable x and assigns it the value of the x coordinate of a pixel?

☐ 1 var x = pixel.getGreen();

☐ 1 x == pixel.getX();

☒ 1 var x = pixel.getX();

Correct

That's correct! Well done!

☐ 1 x == pixel.getGreen();



2. A variable x has been initialized to have the value 2. What is the value of x after the following line of code has been executed?

☐ 1 x = x\*3;

☐ 0

☐ 3

☒ 6

Correct

That's correct! Well done!

☐ 2

☐ 1



3. Consider the following code segment:

```
1 var x = 3;
2 print("x");
```

What is the output?

☒ x

Correct

That is correct! Printing a character that is inside quotation marks prints that character.

☐ x is 3

☐ 3

☐ x = 3



4. Which of the following lines of code includes a method call? Select all that apply.

☐ 1 var x = 3;

☐ 1 x = "x";

☐ 1 print(image);

This should not be selected

This is an example of a function, not a method. To better understand the difference between functions and methods, review the "Methods" and "Functions" videos! Also ask for help in the forums if you're having difficulty understanding these key concepts.

☒ 1 px.setRed(200);

Correct

setRed is a method call, as it is being called on the object img, there is a dot between the object and method call, and there are parentheses following the method call.

☒ 1 var w = img.getWidth();

Correct

getWidth is a method call, as it is being called on the object img, there is a dot between the object and method call, and there are parentheses following the method call.



5. Consider the following code. What does a call to i1.getHeight() return?

```
1 var i1 = new SimpleImage(name);
2 var i2 = new SimpleImage(name2);
```

☐ The height of image i2

☐ The width of image i1

☐ The width of image i2

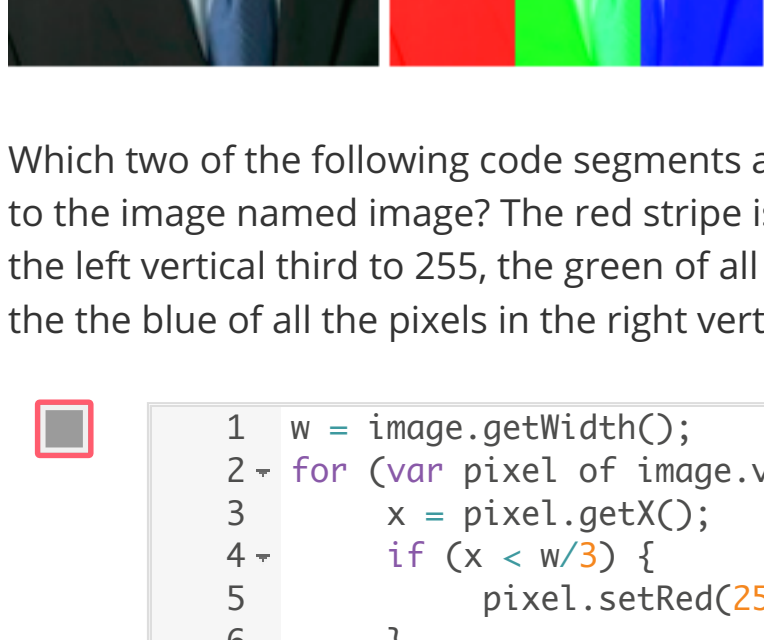
☒ The height of image i1

Correct

That is correct! Keep up the good work!



6. Consider the code you just wrote in the last programming exercise to modify Drew's picture shown on the left by making a red, green and blue vertical stripe as shown in the image on the right.



Which two of the following code segments are the correct loop to make this modification to the image named image? The red stripe is made by changing the red of all the pixels in the left vertical third to 255, the green of all the pixels in the middle vertical to 255, and the the blue of all the pixels in the right vertical third to 255.

☐ 1 w = image.getWidth();
2 for (var pixel of image.values()) {
3 x = pixel.getX();
4 if (x < w/3) {
5 pixel.setRed(255);
6 }
7 if (x >= w/3 && x < 2\*w/3) {
8 pixel.setGreen(255);
9 }
10 else {
11 pixel.setBlue(255);
12 }
13 }

This should not be selected

This code makes the left third of the image magenta instead of red.

☐ 1 w = image.getWidth();
2 for (var pixel of image.values()) {
3 x = pixel.getX();
4 if (x < w/3) {
5 pixel.setRed(255);
6 }
7 if (x < 2\*w/3) {
8 pixel.setGreen(255);
9 }
10 if (x <= w) {
11 pixel.setBlue(255);
12 }
13 }

Un-selected is correct

☐ 1 w = image.getWidth();
2 for (var pixel of image.values()) {
3 x = pixel.getX();
4 if (x < w/3) {
5 pixel.setRed(255);
6 }
7 else if (x < 2\*w/3) {
8 pixel.setGreen(255);
9 }
10 else {
11 pixel.setBlue(255);
12 }
13 }

This should be selected

☐ 1 w = image.getWidth();
2 for (var pixel of image.values()) {
3 x = pixel.getX();
4 if (x < w/3) {
5 pixel.setRed(255);
6 }
7 if (x >= w/3 || x < 2\*w/3) {
8 pixel.setGreen(255);
9 }
10 if (x >= 2\*w/3 || x <= w) {
11 pixel.setBlue(255);
12 }
13 }

Un-selected is correct

☒ 1 w = image.getWidth();
2 for (var pixel of image.values()) {
3 x = pixel.getX();
4 if (x < w/3) {
5 pixel.setRed(255);
6 }
7 if (x >= w/3 && x < 2\*w/3) {
8 pixel.setGreen(255);
9 }
10 if (x >= 2\*w/3 && x <= w) {
11 pixel.setBlue(255);
12 }
13 }

Correct

☐ 1 w = image.getWidth();
2 for (var pixel of image.values()) {
3 x = pixel.getX();
4 if (x < w/3) {
5 pixel.setRed(255);
6 }
7 if (x >= w/3 || x < 2\*w/3) {
8 pixel.setGreen(255);
9 }
10 else {
11 pixel.setBlue(255);
12 }
13 }

Un-selected is correct



7. The function swapRedGreen has one parameter, a pixel. This function swaps the red and green values and returns the resulting red, green and blue values somehow. Which one of the following is the correct code for this function?

☐ 1 function swapRedGreen(pixel) {
2 var newGreen = pixel.getRed();
3 var newRed = pixel.getGreen();
4 var blue = pixel.getBlue();
5 pixel.setRed(newRed);
6 return pixel;
7 pixel.setRed(newRed);
8 return pixel;
9 pixel.setBlue(blue);
10 return pixel;
11 }

☐ 1 function swapRedGreen(pixel) {
2 var newGreen = pixel.getRed();
3 var newRed = pixel.getGreen();
4 pixel.setGreen(newGreen);
5 pixel.setRed(newRed);
6 return pixel.getRed();
7 return pixel.getGreen();
8 return pixel.getBlue();
9 }

☐ 1 function swapRedGreen(pixel) {
2 var newGreen = pixel.getRed();
3 var newRed = pixel.getGreen();
4 pixel.setGreen(newGreen);
5 return newRed;
6 return newGreen;
7 return blue;
8 }

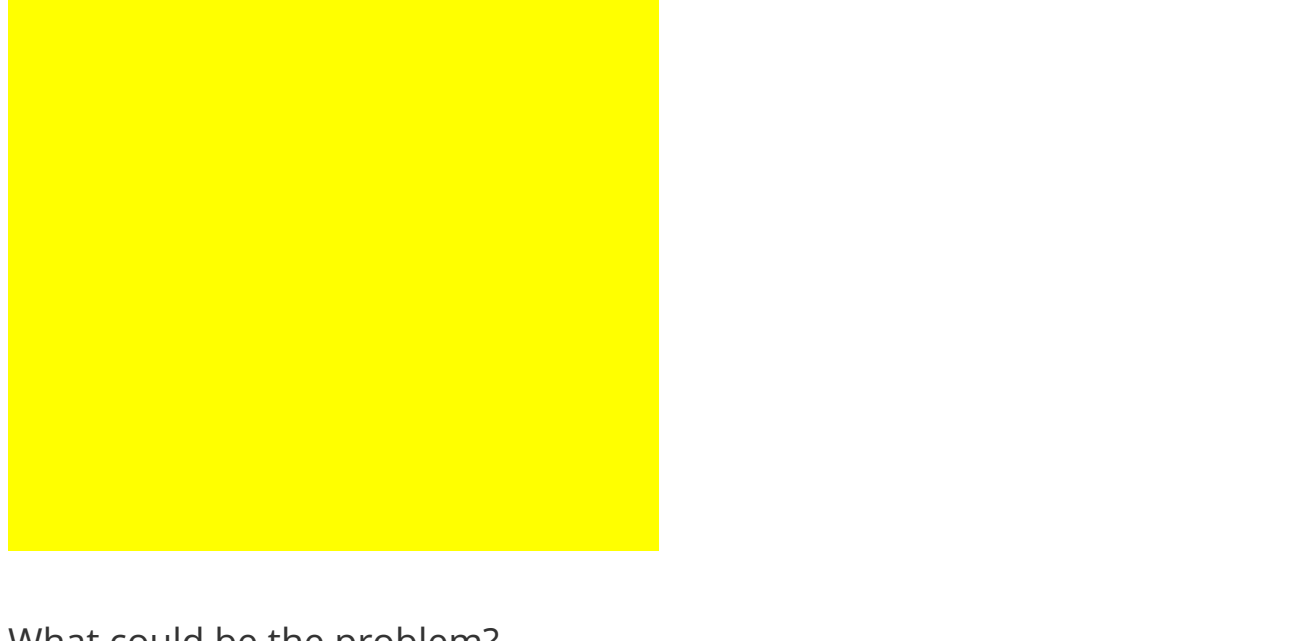
☒ 1 function swapRedGreen(pixel) {
2 var newGreen = pixel.getRed();
3 var newRed = pixel.getGreen();
4 pixel.setGreen(newGreen);
5 pixel.setRed(newRed);
6 return pixel;
7 }

Correct

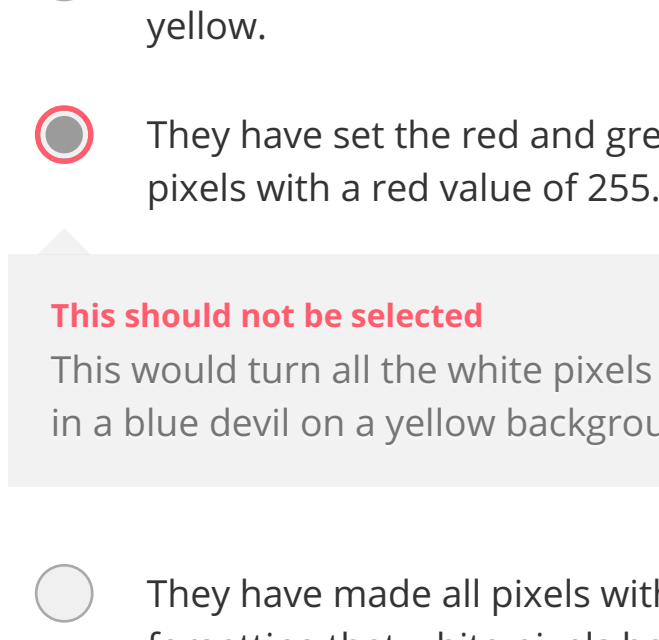
That is correct! Terrific!



8. Your friend is writing code to change the Duke blue devil to be yellow, as in the following example:



However, their code is producing a completely yellow image:



What could be the problem?

- ☐ They have forgotten to change the blue values to 0 for pixels that should be yellow.
- ☒ They have set the red and green values to 255 and the blue value to 0 for all pixels with a red value of 255.

This should not be selected

This should turn all the white pixels yellow but leave the blue pixels blue, resulting in a blue devil on a yellow background

- ☐ They have made all pixels with a blue value of greater than 220 yellow, forgetting that white pixels have blue values of 255.