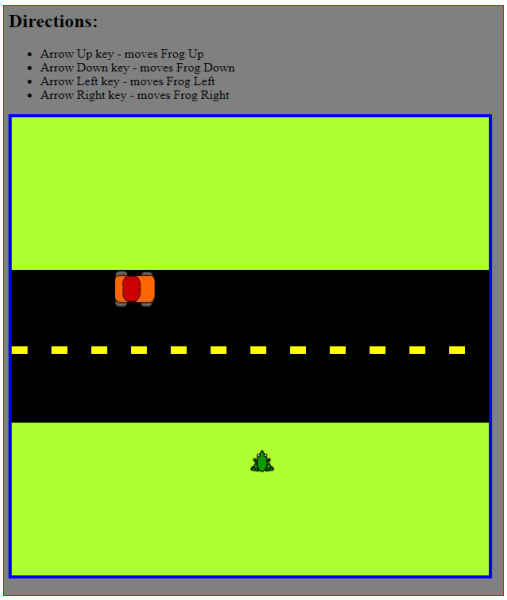
IT 207: Animating Cars– Frogger Part 2

You will continue creating a web page for the popular arcade game in the 1980's, called Frogger.



1. Create a drawBackground() function

Open up keyevents.js, and add a new function called `drawBackground()` which will be the **first** function *called from the draw() function*. In `drawBackground()` you should add a filled rectangle which covers the entire region of your HTML Canvas Element so when the frog and the cars move, you do not see their old positions on the HTML Canvas Element. You should also add a road for the car to travel on. Here is the beginning of the function:

```
function drawBackground()
{
    // draw grass
    pen.fillStyle = "greenyellow";
    pen.fillRect(0,0,canvas.width,canvas.height);

    // draw the road by creating a filled colored rectangle

}
```

2. Set up the Animated Cars X and Y Positions

```
// set up a variable to hold the current x location of the car
let carX = 0;
// set up a constant to hold the y location of the car
const carY = canvas.height / 3;
```

3. Create a drawCar() function

In keyevents.js, add a new function called `drawCar()`. This function which will be *called from the draw() function.* Make sure you call `drawCar()` AFTER `drawBackground()` so you do not draw the background OVER the car making the car INVISIBLE.

```
function drawCar()
{
   // draws a car image positioned at x=carX y=carY width=50px and height=50px
   pen.drawImage(carImg,carX,carY,50,50);
}
```

4. Create a moveCar() function

In keyevents.js, add a new function called `moveCar()` which will be *called automatically with the setInterval() function*. This function is adding 10 pixels to the car's x position, but you may want to add a different amount or better yet allow the user to specify how fast the car moves. You will need to add an if statement to this function that keeps the car visible on the roadway.

```
function moveCar()
{
    // change the carX variable so the car will move to the right
    carX += 10;

    // TODO: if carX is greater than the canvas' width,
    // set carX to allow the car to reenter the roadway
    // from the left side of the canvas element


    //call draw()
    draw();

}
```

5. Add a timer to animate the car

In keyevents.js, add a call to the `setInterval()` function that will call your `moveCar()` function every 200 milliseconds or so. Make sure you save the returned value from the `setInterval()` function so later when you add in collision detection, you can call the `clearInterval()` method on the timer so the car's motion is stopped.

```
// make sure moveCar is called every 200 milliseconds
const timer = setInterval(moveCar, 200);
```