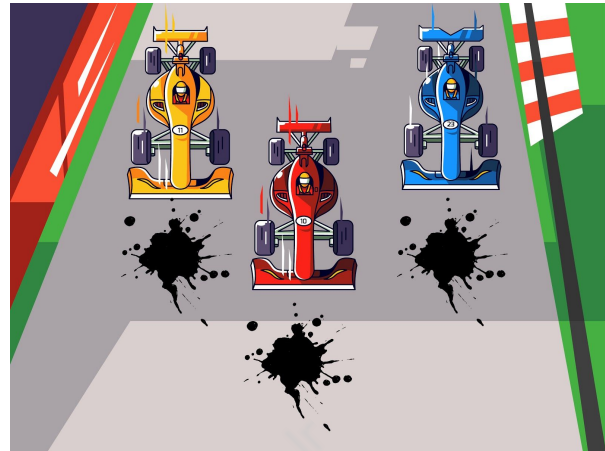**GAME OBSTACLE**



**What is our GOAL for this MODULE?**

We used our knowledge about collisions to slow down the car as soon as it touches the obstacle.
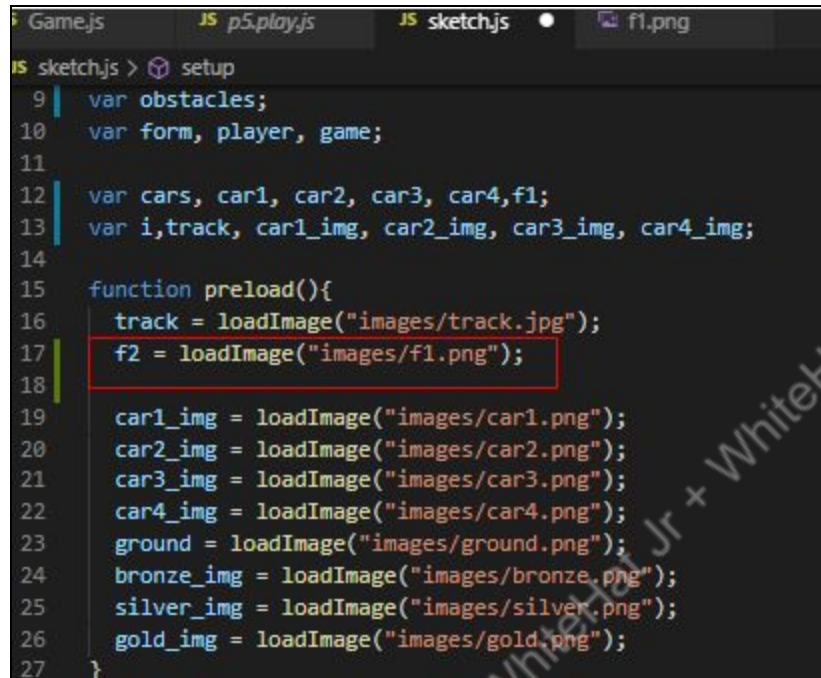
**What did we ACHIEVE in the class TODAY?**

- We have created a collision between the obstacle and decreased the speed of the car by adding the concept of isTouching function.
- We have also added a sound effect whenever a car is colliding with the obstacle.

**Which CONCEPTS/CODING BLOCKS did we cover today?**

- isTouching()
- random()
- loadSound()

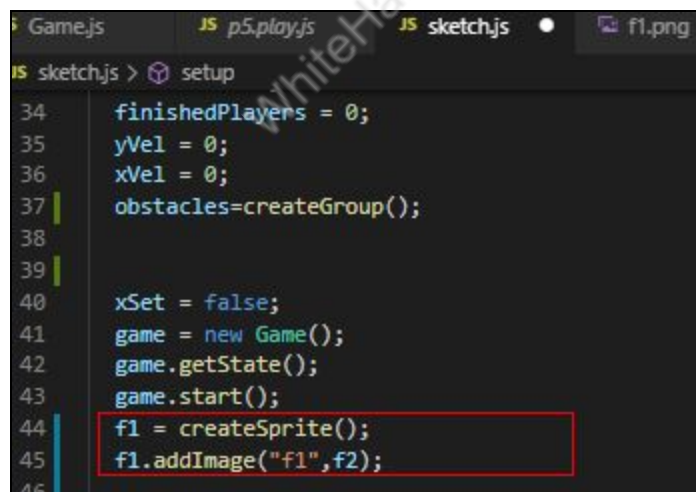### How did we DO the activities?

1. Add the image of the obstacle inside the sketch.js.

```
Game.js          JS p5.play.js       JS sketch.js  ●      f1.png

JS sketch.js > ⊙ setup
 9     var obstacles;
10     var form, player, game;
11
12     var cars, car1, car2, car3, car4,f1;
13     var i,track, car1_img, car2_img, car3_img, car4_img;
14
15     function preload(){
16         track = loadImage("images/track.jpg");
17         f2 = loadImage("images/f1.png");
18
19         car1_img = loadImage("images/car1.png");
20         car2_img = loadImage("images/car2.png");
21         car3_img = loadImage("images/car3.png");
22         car4_img = loadImage("images/car4.png");
23         ground = loadImage("images/ground.png");
24         bronze_img = loadImage("images/bronze.png");
25         silver_img = loadImage("images/silver.png");
26         gold_img = loadImage("images/gold.png");
27     }
```
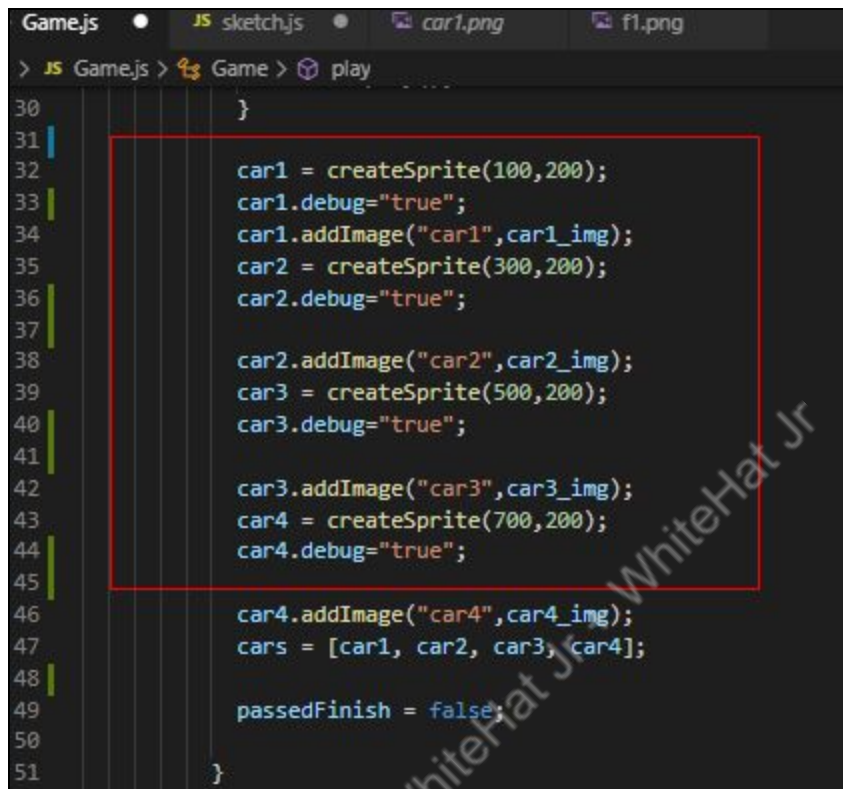
2. Create a sprite for the obstacles.

```
Game.js          JS p5.play.js       JS sketch.js  ●      f1.png

JS sketch.js > ⊙ setup
34         finishedPlayers = 0;
35         yVel = 0;
36         xVel = 0;
37         obstacles=createGroup();
38
39
40         xSet = false;
41         game = new Game();
42         game.getState();
43         game.start();
44         f1 = createSprite();
45         f1.addImage("f1",f2);
46
```

3. Set the width and height of the obstacles.

```
sketch.js > setup
26      gold_img = loadImage("images/gold.png");          > width
27    }
28
29    function setup(){
30      canvas = createCanvas(displayWidth , displayHeight);
31      database = firebase.database();
32      gameState = 0;
33      distance = 0;
34      finishedPlayers = 0;
35      yVel = 0;
36      xVel = 0;
37
38
39      xSet = false;
40      game = new Game();
41      game.getState();
42      game.start();
43
44        w=random(200,950);
45        h=random(-height*4,height-300);
46      f1 = createSprite(w,h);
47      //car1.debug="true";
48      f1.addImage("f1",f2);
49
```
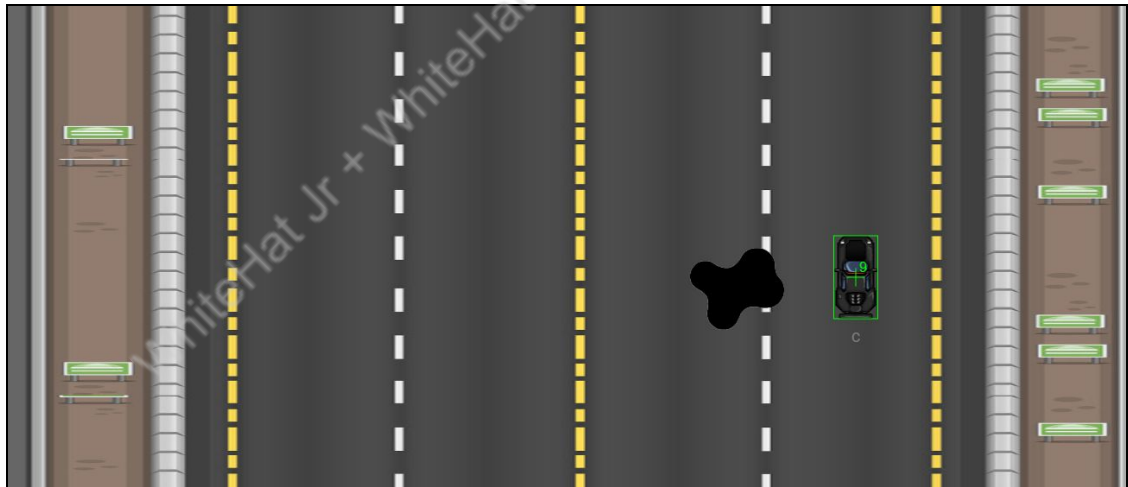
4. Make the collision radius visible by setting debug as true.

```
Game.js    ●    JS sketch.js    ●    car1.png         f1.png

> JS Game.js > Game > play
30                  }
31
32                      car1 = createSprite(100,200);
33                      car1.debug="true";
34                      car1.addImage("car1",car1_img);
35                      car2 = createSprite(300,200);
36                      car2.debug="true";
37
38                      car2.addImage("car2",car2_img);
39                      car3 = createSprite(500,200);
40                      car3.debug="true";
41
42                      car3.addImage("car3",car3_img);
43                      car4 = createSprite(700,200);
44                      car4.debug="true";
45
46                      car4.addImage("car4",car4_img);
47                      cars = [car1, car2, car3, car4];
48
49                      passedFinish = false;
50
51              }
```

5. Decrease the speed of the car as soon it touches the obstacle.

6. Create an obstacle group for adding more than one obstacle.

```javascript
function setup(){
  canvas = createCanvas(displayWidth , displayHeight);
  database = firebase.database();
  gameState = 0;
  distance = 0;
  // finishedPlayers = 0;
  yVel = 0;
  xVel = 0;
  obstacles=createGroup();

  xSet = false;
  game = new Game();
  game.getState();
  game.start();
  for(i=0;i<5;i++)
  {
    w=random(200,950);
    h=random(-height*4,height-300);
    f1 = createSprite(w,h);
    //car1.debug="true";
    f1.addImage("f1",f2);
    obstacles.add(f1);
  }
}
```

```javascript
// y = displayHeight - allPlayers[plr].distance;
cars[index-1].x = x;
cars[index-1].y = y;
textAlign(CENTER);
textSize(20);
text(allPlayers[plr].name, cars[index - 1].x, cars[index - 1].y + 75);
if (index === player.index){
  cars[index - 1].shapeColor = "red";
  camera.position.x = displayWidth/2;
  camera.position.y = cars[index-1].y
  if( cars[index - 1].isTouching(obstacles)){
    yVel -= 0.9;
  }
}
}
```

7. Load the sound effect inside the sketch.js.

- Play the sound which is loaded before using the play() function.



```
var y;

for(var plr in allPlayers){
    //add 1 to the index for every loop
    index = index + 1 ;
    x = 200 + (index * 200) + allPlayers[plr].xPos;
    y = displayHeight - allPlayers[plr].distance ;
    //position the cars a little away from each other in x direction
    // x = x + 200;
    //use data form the database to display the cars in y direction
    // y = displayHeight - allPlayers[plr].distance;
    cars[index-1].x = x;
    cars[index-1].y = y;
    textAlign(CENTER);
    textSize(20);
    text(allPlayers[plr].name, cars[index - 1].x, cars[index - 1].y + 75);
    if (index === player.index){
        cars[index - 1].shapeColor = "red";
        camera.position.x = displayWidth/2;
        camera.position.y = cars[index-1].y
        if( cars[index - 1].isTouching(obstacles)){
            s.play();

        yVel -= 0.9;

        }
    }
}
```
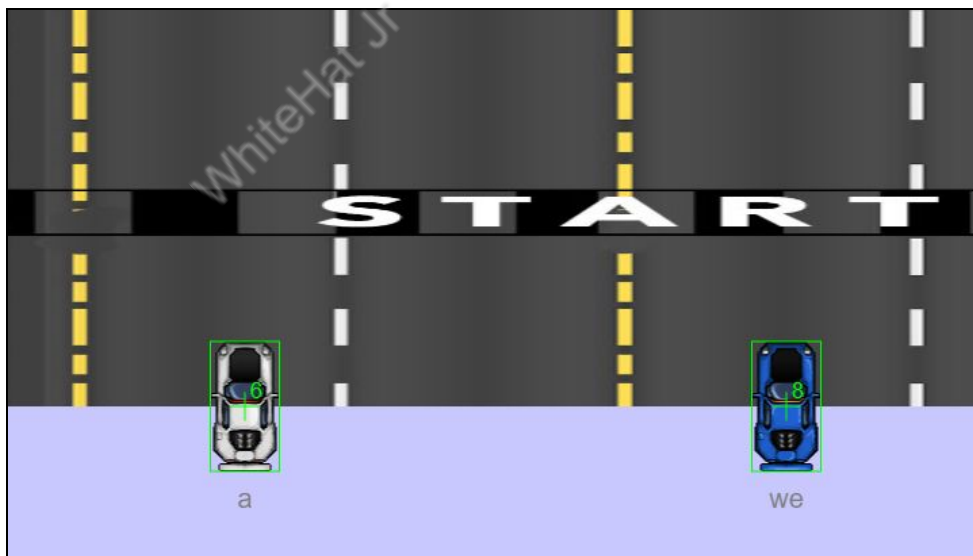
**What's next?**

In the next class, you will be learning how to create a player's rank in the game.

**EXTEND YOUR KNOWLEDGE:**

1. Learn more about random() function [here](here).