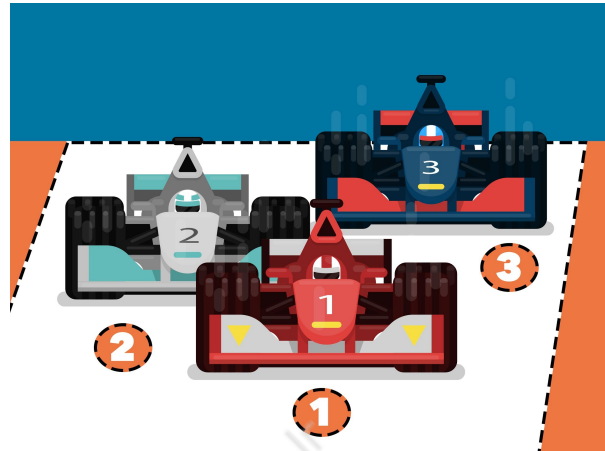


PLAYER RANK



What is our GOAL for this MODULE?

We used our knowledge about Firebase to assign the rank to each player.

What did we ACHIEVE in the class TODAY?

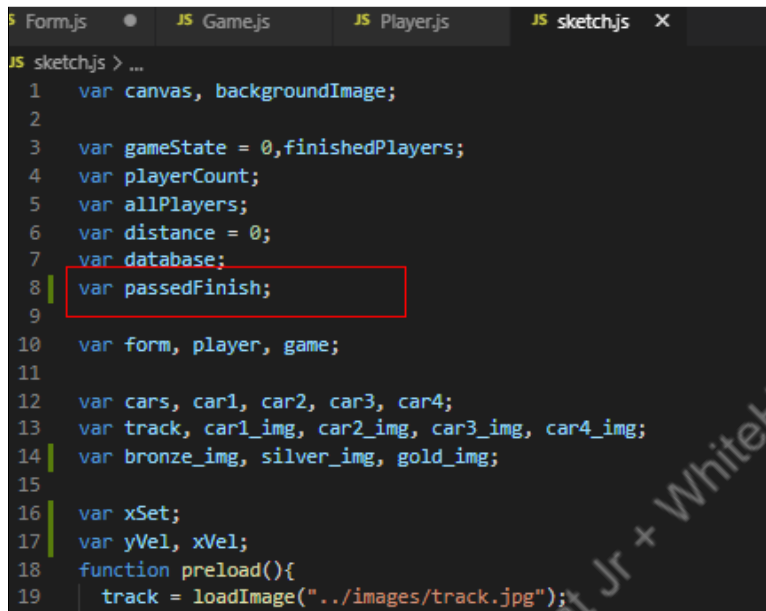
We created a new property for each player called “rank” and displayed each player's rank when the game ended.

Which CONCEPTS/CODING BLOCKS did we cover today?

- updateFinishedPlayers() function
- displayRanks() function
- image() function

How did we DO the activities?

1. Create a variable for the finish line.



```
JS sketchjs > ...
1  var canvas, backgroundImage;
2
3  var gameState = 0, finishedPlayers;
4  var playerCount;
5  var allPlayers;
6  var distance = 0;
7  var database;
8  var passedFinish;
9
10 var form, player, game;
11
12 var cars, car1, car2, car3, car4;
13 var track, car1_img, car2_img, car3_img, car4_img;
14 var bronze_img, silver_img, gold_img;
15
16 var xSet;
17 var yVel, xVel;
18 function preload(){
19   track = loadImage("../images/track.jpg");
```

2. Set the initial value of passedFinish as false, and whenever the player crosses the finish line, it is changed as true.



```
Form.js • JS Game.js X JS Player.js JS sketchjs
> JS Game.js > Game > Play
24   if(playerCountRef.exists()){
25     playerCount = playerCountRef.val();
26     player.getCount();
27   }
28   form = new Form()
29   form.display();
30 }
31
32 car1 = createSprite(100,200);
33 car1.addImage("car1",car1_img);
34 car2 = createSprite(300,200);
35 car2.addImage("car2",car2_img);
36 car3 = createSprite(500,200);
37 car3.addImage("car3",car3_img);
38 car4 = createSprite(700,200);
39 car4.addImage("car4",car4_img);
40 cars = [car1, car2, car3, car4];
41 passedFinish = false;
42
```

```

JS Game.js > Game > play
    }else{
        yVel *= 0.985;
        xVel *= 0.985;
    }

    }else if(passedFinish === false){
        yVel *= 0.7;
        xVel *= 0.7;
        Player.updateFinishedPlayers();
        player.place = finishedPlayers;

        player.update();
        passedFinish = true;
    }else{
        yVel *= 0.8;
        xVel *= 0.8;
    }

    //move the car
    player.distance += yVel;
    yVel *= 0.98;
    player.xPos += xVel;
    xVel *= 0.985;
    player.update();
    //display sprites

```

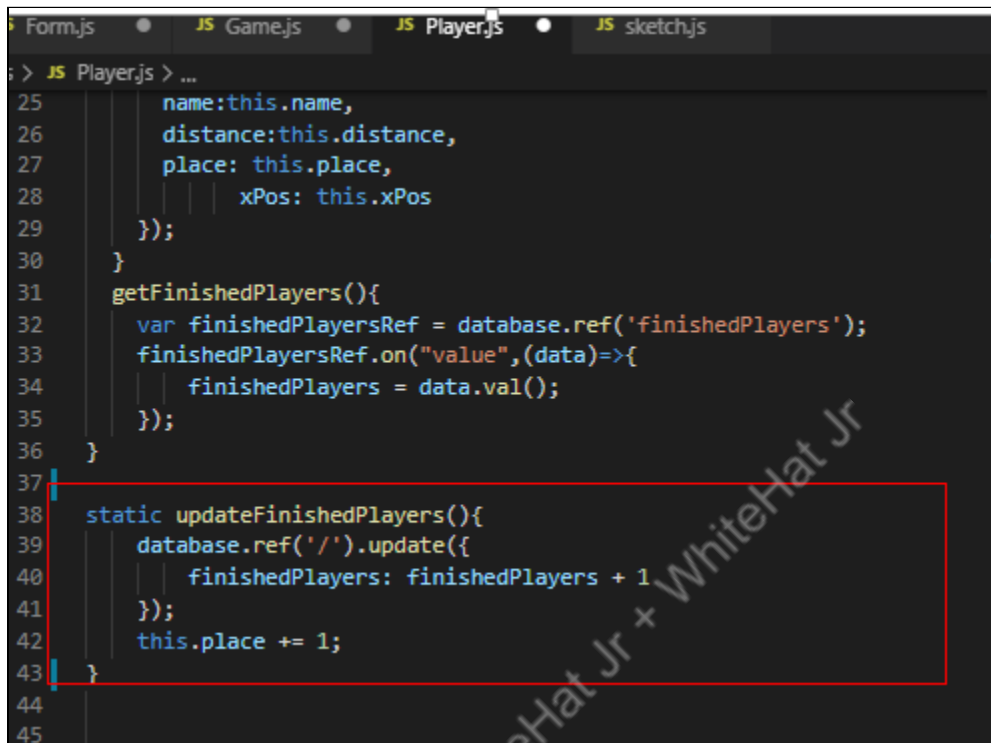
3. Get the detail of the finished player from the database and store in the finishedPlayers variable.

```

JS Player.js > ...
25  name: this
26  distance > fini
27  place: this.place,
28  xPos: this.xPos
29  });
30  }
31  getFinishedPlayers(){
32  var finishedPlayersRef = database.ref('finishedPlayers');
33  finishedPlayersRef.on("value",(data)=>{
34  finishedPlayers = data.val();
35  });
36  }

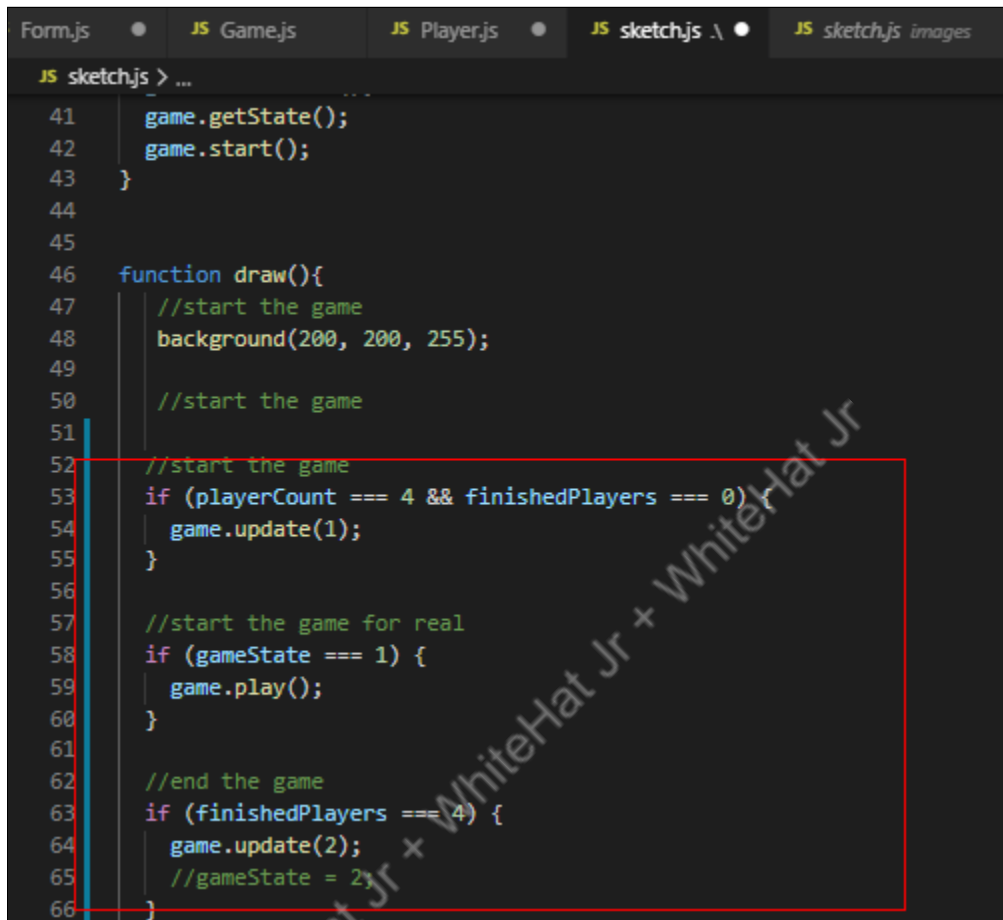
```

4. Increment the place and update the finished player count.



```
Form.js JS Game.js JS Player.js JS sketch.js
> JS Player.js > ...
25     name: this.name,
26     distance: this.distance,
27     place: this.place,
28     xPos: this.xPos
29   });
30 }
31 getFinishedPlayers(){
32   var finishedPlayersRef = database.ref('finishedPlayers');
33   finishedPlayersRef.on("value", (data) => {
34     finishedPlayers = data.val();
35   });
36 }
37
38 static updateFinishedPlayers(){
39   database.ref('/').update({
40     finishedPlayers: finishedPlayers + 1
41   });
42   this.place += 1;
43 }
44
45
```

5. Change the state of the game based upon the finishedPlayer value.

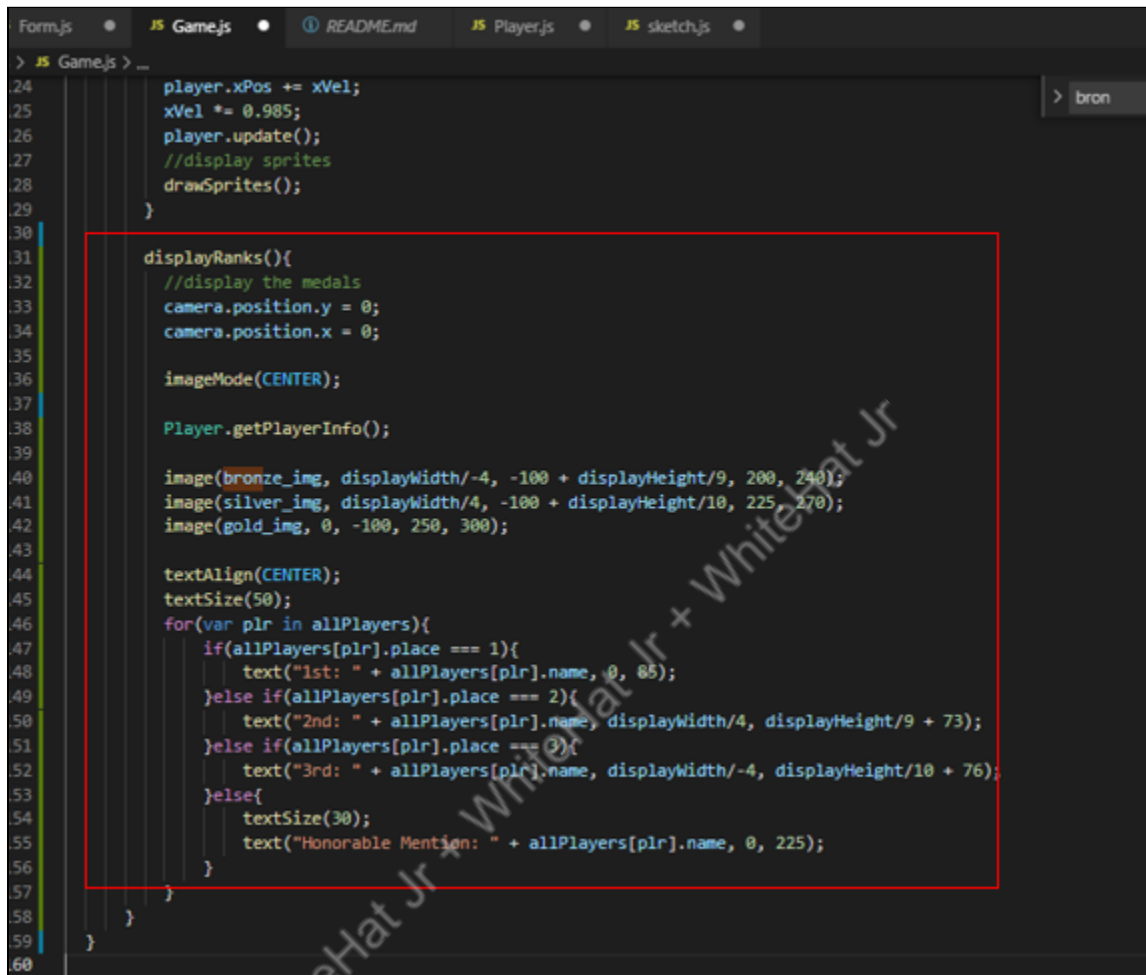


```
Form.js • JS Game.js JS Player.js • JS sketch.js \ • JS sketch.js images
JS sketch.js > ...
41   game.getState();
42   game.start();
43 }
44
45
46 function draw(){
47   //start the game
48   background(200, 200, 255);
49
50   //start the game
51
52   //start the game
53   if (playerCount === 4 && finishedPlayers === 0) {
54     game.update(1);
55   }
56
57   //start the game for real
58   if (gameState === 1) {
59     game.play();
60   }
61
62   //end the game
63   if (finishedPlayers === 4) {
64     game.update(2);
65     //gameState = 2;
66   }
```

6. Load the image for the medals inside the sketch.js.

```
15 sketchjs > setup
> bron Aa Ab 1 of 3
1  var canvas, backgroundImage;
2
3  var gameState = 0, finishedPlayers;
4  var playerCount;
5  var allPlayers;
6  var distance = 0;
7  var database;
8  var passedFinish;
9
10 var form, player, game;
11
12 var cars, car1, car2, car3, car4;
13 var track, car1_img, car2_img, car3_img, car4_img;
14 var bronze_img, silver_img, gold_img;
15
16 var xSet;
17 var yVel, xVel;
18 function preload(){
19   track = loadImage("../images/track.jpg");
20   car1_img = loadImage("../images/car1.png");
21   car2_img = loadImage("../images/car2.png");
22   car3_img = loadImage("../images/car3.png");
23   car4_img = loadImage("../images/car4.png");
24   ground = loadImage("../images/ground.png");
25   bronze_img = loadImage("Images/bronze.png");
26   silver_img = loadImage("Images/silver.png");
27   gold_img = loadImage("Images/gold.png");
28 }
29
```

7. Write a condition to check the rank of the player.



```
Form.js • JS Game.js • README.md • JS Player.js • JS sketch.js •
> JS Game.js > ...
24   player.xPos += xVel;
25   xVel *= 0.985;
26   player.update();
27   //display sprites
28   drawSprites();
29   }
30
31   displayRanks(){
32     //display the medals
33     camera.position.y = 0;
34     camera.position.x = 0;
35
36     imageMode(CENTER);
37
38     Player.getPlayerInfo();
39
40     image(bronze_img, displayWidth/-4, -100 + displayHeight/9, 200, 240);
41     image(silver_img, displayWidth/4, -100 + displayHeight/10, 225, 270);
42     image(gold_img, 0, -100, 250, 300);
43
44     textAlign(CENTER);
45     textSize(50);
46     for(var plr in allPlayers){
47       if(allPlayers[plr].place === 1){
48         text("1st: " + allPlayers[plr].name, 0, 85);
49       }else if(allPlayers[plr].place === 2){
50         text("2nd: " + allPlayers[plr].name, displayWidth/4, displayHeight/9 + 73);
51       }else if(allPlayers[plr].place === 3){
52         text("3rd: " + allPlayers[plr].name, displayWidth/-4, displayHeight/10 + 76);
53       }else{
54         textSize(30);
55         text("Honorable Mention: " + allPlayers[plr].name, 0, 225);
56       }
57     }
58   }
59 }
60
```

8. Include displayRank function inside the gameState.

```
JS Form.js • JS Game.js • README.md • JS Player.js • JS sketch.js •
JS sketch.js > draw
55 }
56
57 //start the game for real
58 if (gameState === 1) {
59   game.play();
60 }
61
62 //end the game
63 if (finishedPlayers === 4) {
64   game.update(2);
65   //gameState = 2;
66 }
67
68 //display ranking
69 if (gameState === 2 && finishedPlayers === 4) {
70   game.displayRanks();
71 }
72 }
```



What's next?

In the next class, you will be learning about Game Story and Mechanics.

EXTEND YOUR KNOWLEDGE:

1. Learn about JavaScript [here](#).

WhiteHat Jr + WhiteHat Jr + WhiteHat Jr