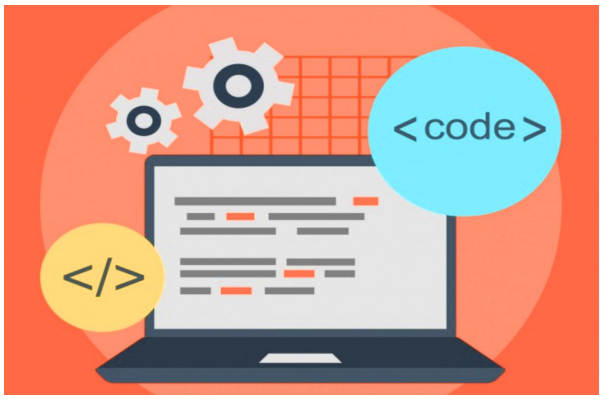
DESIGNING A PONG GAME



What is our GOAL for this MODULE?

We used our knowledge of sprites, object properties and functions to create and assign game behaviour to the objects in the Pong Game.

What did we ACHIEVE in the class TODAY?

- Created 2 paddles and a ball as sprite objects in the game.
- Assigned game behaviour to the paddles and the ball.
- Added AI to the computer-controlled paddle.

Which CONCEPTS/ CODING BLOCKS did we cover today?

- Code behaviour of different sprites

How did we DO the activities?

1. Create the paddles and the ball using sprite and place them in the game.

```
var playerPaddle = createSprite(380,190,10,70);
var computerPaddle = createSprite(10,190,10,70);
var ball = createSprite(200,200,10,10);

function draw() {
  drawSprites();
}
```

2. Give a background("white") to the game.

3. Assign the position properties to the player paddle object.

```
var playerPaddle = createSprite(380,190,10,70);
var computerPaddle = createSprite(10,190,10,70);
var ball = createSprite(200,200,10,10);

function draw() {
  background("white");

  playerPaddle.x = 380;
  playerPaddle.y = World.mouseY;

  drawSprites();
}
```

4. Assign behaviour to the ball.
    - Give velocity to the ball IF the user presses the SPACE button.

```
var playerPaddle = createSprite(380,190,10,70);
var computerPaddle = createSprite(10,190,10,70);
var ball = createSprite(200,200,10,10);

function draw() {
  background("white");

  playerPaddle.x = 380;
  playerPaddle.y = World.mouseY;

  if (keyDown("space")){
    ball.velocityX = 2;
    ball.velocityY = 3;
  }

  drawSprites();
}
```

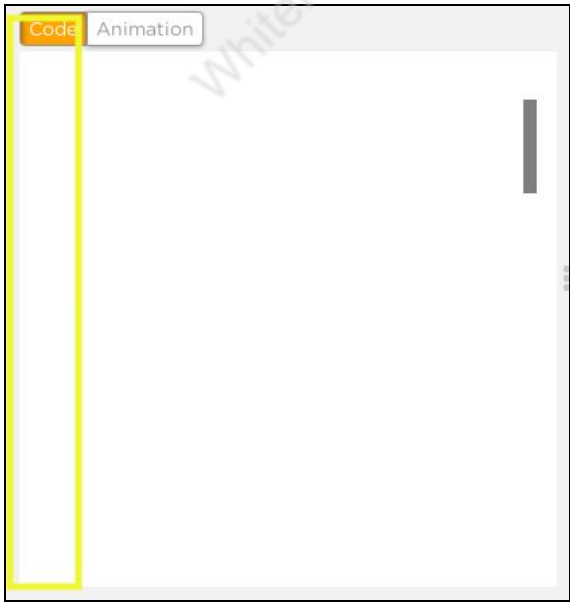
5. Make the ball bounceOff the walls and the paddle.

```
var playerPaddle = createSprite(380,190,10,70);
var computerPaddle = createSprite(10,190,10,70);
var ball = createSprite(200,200,10,10);

function draw() {
  background("white");

  playerPaddle.x = 380;
  playerPaddle.y = World.mouseY;

  if (keyDown("space")){
    ball.velocityX = 3;
    ball.velocityY = 4;
  }

  createEdgeSprites();

  ball.bounceOff(topEdge);
  ball.bounceOff(bottomEdge);

  ball.bounceOff(playerPaddle);
  ball.bounceOff(computerPaddle);

  drawSprites();
}
```

6. Finally, assign the x and y position to the computer paddle.

```
1  var playerPaddle = createSprite(380,190,10,70);
2  var computerPaddle = createSprite(10,190,10,70);
3  var ball = createSprite(200,200,10,10);
4
5  function draw() {
6    background("white");
7
8    playerPaddle.x = 380;
9    playerPaddle.y = World.mouseY;
10
11   computerPaddle.x = 10;
12   computerPaddle.y = ball.y;
13
14   if (keyDown("space")){
15     ball.velocityX = 3;
16     ball.velocityY = 4;
17   }
18
19   createEdgeSprites();
20
21   ball.bounceOff(topEdge);
22   ball.bounceOff(bottomEdge);
23
24   ball.bounceOff(playerPaddle);
25   ball.bounceOff(computerPaddle);
26
27   drawSprites();
28 }
```

Output:



Bonus: Write IF statements so that the computer paddle moves back to the centre of the screen if the ball crosses the screen.

```
var playerPaddle = createSprite(380,190,10,70);
var computerPaddle = createSprite(10,190,10,70);
var ball = createSprite(200,200,10,10);

function draw() {
  background("white");

  playerPaddle.x = 380;
  playerPaddle.y = World.mouseY;

  computerPaddle.x = 10;
  computerPaddle.y = ball.y;

  if (keyDown("space")){
    ball.velocityX = 3;
    ball.velocityY = 4;
  }

  if (ball.x > 400 || ball.x < 0){
    computerPaddle.x = 10;
    computerPaddle.y = 190;
  }

  createEdgeSprites();

  ball.bounceOff(topEdge);
  ball.bounceOff(bottomEdge);

  ball.bounceOff(playerPaddle);
  ball.bounceOff(computerPaddle);
```

What's next?

We will address some of the flaws in the game. We will also learn about something called Game State.