WhiteHat Jr
Live Online Coding for Kids

OBJECT-ORIENTED PROGRAMMING

What is our GOAL for this MODULE?

This class established the importance of object-oriented programming. Students started designing the game Pong by adding and positioning paddles and a ball.

What did we ACHIEVE in the class TODAY?

- Understood the concepts of Object-Oriented Programming (OOP).
- Started designing the Pong game.
- Created objects - Paddle and Ball and used them in the program.
- Stored objects in variables.

Which CONCEPTS/ CODING BLOCKS did we cover today?

- Object-Oriented Programming concepts
- **createSprite()**
- **drawSprites()**

How did we DO the activities?

1. Create **playerPaddle** sprite using **createSprite()** and remove the **rect()** function from the code.
   - Drag the **createSprite()** instruction from the Sprite toolbox and add **x-position, y-position, width,** and **height** of the sprite.

```
var playerPaddle = createSprite(390, 200, 10, 70)

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

}
```

2. Add **drawSprites()** to display the created sprites.

```
var playerPaddle = createSprite(390, 200, 10,70);

function draw() {
  background("white");
  drawSprites();
}
```
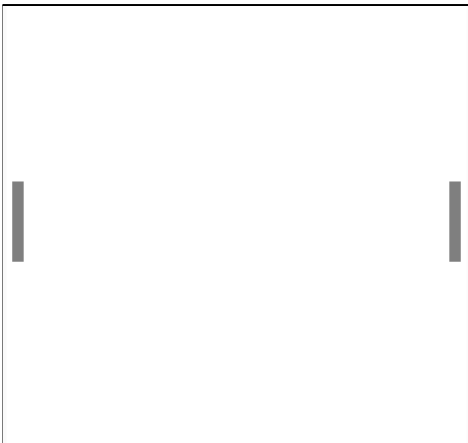
Output:

3. Create the **computerPaddle** by using **createSprite()**.

```
var playerPaddle = createSprite(390, 200, 10,70);
var computerPaddle = createSprite(10 , 200, 10,70);

function draw() {
  background("white");
  drawSprites();
}
```
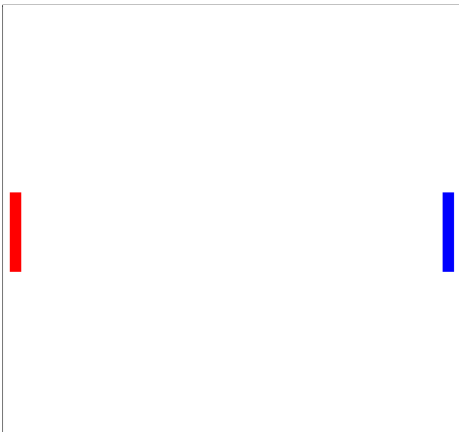
Output:

4. Add color to the sprites by using **sprite.shapeColor.** Here "**sprite**" is a variable name, so it can be replaced by a different name.

```
var playerPaddle = createSprite(390, 200, 10,70);
var computerPaddle = createSprite(10, 200, 10,70);

playerPaddle.shapeColor="Blue";
computerPaddle.shapeColor="Red";

function draw() {
  background("white");
  drawSprites();
}
```

Output:

5. Add the ball to the game in the same way as the paddles.
   ● Use **createSprite** to create the ball.

```
var playerPaddle = createSprite(390, 200, 10,70);
var computerPaddle = createSprite(10, 200, 10,70);
var ball=createSprite(200,200,10,10)

playerPaddle.shapeColor="Blue";
computerPaddle.shapeColor="Red";

function draw() {
  background("white");
  drawSprites();
}
```

   ● Add color to the ball using **shapeColor**.

```
var playerPaddle = createSprite(390, 200, 10,70);
var computerPaddle = createSprite(10, 200, 10,70);
var ball=createSprite(200,200,10,10);

playerPaddle.shapeColor="Blue";
computerPaddle.shapeColor="Red";
ball.shapeColor="Green";

function draw() {
  background("white");
  drawSprites();
}
```

Output:
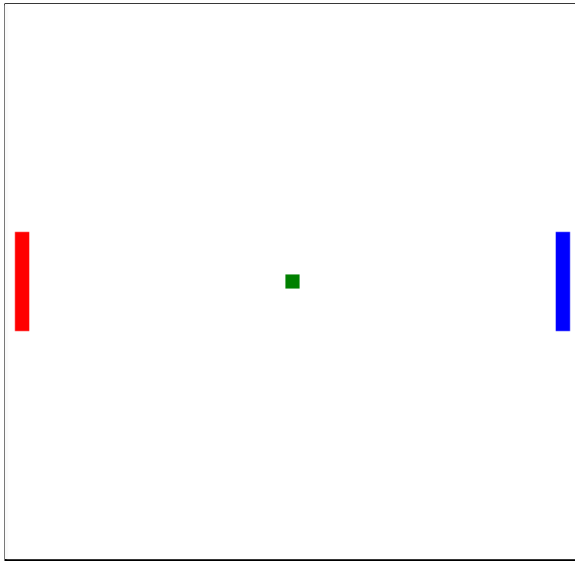
What's NEXT?

In the next lesson, we'll make the ball move around in the game.

EXTEND YOUR KNOWLEDGE

1. **Object Oriented Programming:** Click on the link to learn more about the OOP's Philosophy.

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