

# INTRO JAVASCRIPT

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Criem um arquivo txt

ADICIONEM TEXTO

# ABRAM COM UM NAVEGADOR

SALVEM O ARQUIVO COMO  
HTML

<html>

Texto <b> negrito </b>

</html>

HELLO WORLD EM  
JAVASCRIPT

```
<html>
```

```
Texto <b>negrito </b>
```

```
<script>
```

```
    console.log("Hello World");
```

```
</script>
```

```
</html>
```



# ABRAM O CONSOLE JAVASCRIPT

CRIANDO UM CANVAS

```
<html>
```

```
Texto <b> negrito </b>
```

```
<canvas id="gameCanvas" width="800"  
height="600"></canvas>
```

```
<script>
```

```
console.log("Hello World");  
</script>
```

```
</html>
```

```
<html>
```

```
Texto <b>negrito </b>
```

```
<canvas id="gameCanvas" width="800"  
Height="600"></canvas>
```

```
<script>
```

```
var canvas;
```

```
var canvasContext;
```

```
console.log("Hello World");
```

```
</script>
```

```
</html>
```

```
<script>  
var canvas;  
var canvasContext;  
console.log("Hello World");  
canvas = document.getElementById('gameCanvas');  
canvasContext = canvas.getContext('2d');  
canvasContext.fillStyle = 'black';  
canvasContext.fillRect(0,0,canvas.width,canvas.height);  
</script>
```

Desenhem um retângulo vermelho  
centralizado

# ORGANIZANDO O CÓDIGO

```
<script>
var canvas;
var canvasContext;
window.onload = function() {
    canvas = document.getElementById('gameCanvas');
    canvasContext = canvas.getContext('2d');
    draw();
}

function draw() {
    canvasContext.fillStyle = 'black';
    canvasContext.fillRect(0,0,canvas.width,canvas.height);
}
</script>
```



ADICIONANDO ANIMAÇÃO

```
<script>
```

```
var canvas;
```

```
var canvasContext;
```

```
var ballX = 50;
```

```
window.onload = function() {
```

```
    canvas = document.getElementById('gameCanvas');
```

```
    canvasContext = canvas.getContext('2d');
```

```
    setInterval(draw,1000);
```

```
}
```

```
function draw() {
```

```
    ballX = ballX + 20;
```

```
    canvasContext.fillStyle = 'black';
```

```
    canvasContext.fillRect(0,0,canvas.width,canvas.height);
```

```
    canvasContext.fillStyle = 'red';
```

```
    canvasContext.fillRect(ballX,100,10,10);
```

```
}
```

```
</script>
```

CONSIDERANDO A  
FREQUÊNCIA DE  
ATUALIZAÇÃO

```
window.onload = function() {  
    canvas = document.getElementById('gameCanvas');  
    canvasContext = canvas.getContext('2d');  
    var framesPerSecond = 30;  
    setInterval(draw, 1000/framesPerSecond);  
}
```

# ORGANIZANDO O CÓDIGO

```
window.onload = function() {  
    canvas = document.getElementById('gameCanvas');  
    canvasContext = canvas.getContext('2d');  
    var framesPerSecond = 30;  
    setInterval(function() {  
        move();  
        draw();  
    }, 1000/framesPerSecond);  
}  
  
function move() {  
    ballX = ballX + 20;  
}  
  
function draw() {  
    canvasContext.fillStyle = 'black';  
    canvasContext.fillRect(0,0,canvas.width,canvas.height);  
    canvasContext.fillStyle = 'red';  
    canvasContext.fillRect(ballX,100,10,10);  
}
```

REBATENDO A BOLA

```
var ballSpeedX = 10;
```

```
...
```

```
function move() {  
    ballX = ballX + ballSpeedX;  
    if (ballX >= canvas.width || ballX <= 0)  
        ballSpeedX = -ballSpeedX;  
}
```



# ORGANIZANDO O CÓDIGO

```
function move() {  
    ballX = ballX + ballSpeedX;  
    if (ballX >= canvas.width || ballX <= 0)  
        ballSpeedX = -ballSpeedX;  
}
```

```
function draw() {  
    colorRect(0,0,canvas.width,canvas.height,'black');  
    colorRect(ballX,100,10,10,'red');  
}
```

```
function colorRect(leftX, topY, width, height, drawColor) {  
    canvasContext.fillStyle = drawColor;  
    canvasContext.fillRect(leftX,topY, width, height);  
}
```

Use a função `colorRect` para desenhar dois pauzinhos centralizados nos cantos da tela, semelhante ao jogo PONG

ADICIONANDO UM CIRCULO

```
function draw() {  
    colorRect(0,0,canvas.width,canvas.height,'black');  
    colorCircle(ballX,150,10,'white');  
}
```

```
function colorCircle(centerX, centerY, radius, drawColor) {  
    canvasContext.fillStyle = drawColor;  
    canvasContext.beginPath();  
    canvasContext.arc(centerX,centerY,radius,0,Math.PI*2,true);  
    canvasContext.fill();  
}
```

# ADICIONANDO MOVIMENTO VERTICAL

```
var ballY = 50;  
var ballSpeedY = 4;
```

```
...
```

```
function move() {  
    ballX = ballX + ballSpeedX;  
    if (ballX >= canvas.width || ballX <= 0)  
        ballSpeedX = -ballSpeedX;  
  
    ballY = ballY + ballSpeedY;  
    if (ballY >= canvas.height || ballY <= 0)  
        ballSpeedY = -ballSpeedY;  
  
}
```

```
function draw() {  
    colorRect(0,0,canvas.width,canvas.height,'black');  
    colorCircle(ballX,ballY,10,'white');  
}
```

# TRATANDO O MOVIMENTO DO MOUSE



```
var paddle1Y = 250;  
const PADDLE_HEIGHT = 100;
```

```
...
```

```
function calculateMousePos(evt) {  
    var rect = canvas.getBoundingClientRect();  
    var root = document.documentElement;  
    var mouseX = evt.clientX - rect.left - root.scrollLeft;  
    var mouseY = evt.clientY - rect.top - root.scrollTop;  
    return {  
        x:mouseX,  
        y:mouseY  
    };  
}
```

```
function calculateMousePos(evt) {  
    ...  
}
```

```
window.onload = function() {  
    canvas = document.getElementById('gameCanvas');  
    canvasContext = canvas.getContext('2d');  
    var framesPerSecond = 30;  
    setInterval(function() {  
        move();  
        draw();  
    }, 1000/framesPerSecond);  
  
    canvas.addEventListener('mousemove',  
        function(evt) {  
            var mousePos = calculateMousePos(evt);  
            paddle1Y = mousePos.y;  
        });  
}
```

# MOVIMENTANDO OS PAUZINHOS

```
function draw() {  
  // black background  
  colorRect(0,0,canvas.width,canvas.height,'black');  
  // left player paddle  
  colorRect(0,paddle1Y,10,100,'white');  
  // ball  
  colorCircle(ballX,ballY,10,'white');  
}
```

Como alinhar o pauzinho no centro?