const canvas = document.getElementById('pong');

const context = canvas.getContext('2d');

// Create the paddle

const paddleWidth = 10, paddleHeight = 100;

const player = {

x: 0,

y: canvas.height / 2 - paddleHeight / 2,

width: paddleWidth,

height: paddleHeight,

color: 'WHITE',

dy: 4

};

const computer = {

x: canvas.width - paddleWidth,

y: canvas.height / 2 - paddleHeight / 2,

width: paddleWidth,

height: paddleHeight,

color: 'WHITE',

dy: 4

};

// Create the ball

const ball = {

x: canvas.width / 2,

y: canvas.height / 2,

radius: 10,

speed: 4,

dx: 4,

dy: 4,

color: 'WHITE'

};

// Draw function

function drawRect(x, y, w, h, color) {

context.fillStyle = color;

context.fillRect(x, y, w, h);

}

function drawCircle(x, y, r, color) {

context.fillStyle = color;

context.beginPath();

context.arc(x, y, r, 0, Math.PI \* 2, false);

context.closePath();

context.fill();

}

function drawText(text, x, y, color) {

context.fillStyle = color;

context.font = "45px Arial";

context.fillText(text, x, y);

}

// Reset ball

function resetBall() {

ball.x = canvas.width / 2;

ball.y = canvas.height / 2;

ball.dx = -ball.dx;

ball.speed = 4;

}

// Draw paddles and ball

function render() {

drawRect(0, 0, canvas.width, canvas.height, "#000"); // Clear the canvas

drawRect(player.x, player.y, player.width, player.height, player.color);

drawRect(computer.x, computer.y, computer.width, computer.height, computer.color);

drawCircle(ball.x, ball.y, ball.radius, ball.color);

}

// Handle ball movement and collision

function update() {

ball.x += ball.dx;

ball.y += ball.dy;

// Ball collision with top and bottom

if (ball.y + ball.radius > canvas.height || ball.y - ball.radius < 0) {

ball.dy = -ball.dy;

}

// Player paddle movement

if (ball.x < canvas.width / 2) {

if (ball.y > player.y + player.height / 2) {

player.y += player.dy;

} else {

player.y -= player.dy;

}

}

// Computer paddle movement

if (ball.x > canvas.width / 2) {

if (ball.y > computer.y + computer.height / 2) {

computer.y += computer.dy;

} else {

computer.y -= computer.dy;

}

}

// Ball collision with paddles

if (ball.x - ball.radius < player.x + player.width && ball.y > player.y && ball.y < player.y + player.height) {

ball.dx = -ball.dx;

}

if (ball.x + ball.radius > computer.x && ball.y > computer.y && ball.y < computer.y + computer.height) {

ball.dx = -ball.dx;

}

// Ball out of bounds

if (ball.x - ball.radius < 0 || ball.x + ball.radius > canvas.width) {

resetBall();

}

}

// Main game loop

function game() {

update();

render();

}

// Run the game at 50 frames per second

const framePerSecond = 50;

setInterval(game, 1000 / framePerSecond);