let snowflakes = [];

let clouds = [];

let snowmanX;

let snowmanY;

function setup() {

createCanvas(windowWidth, windowHeight); // Set canvas size to the size of the computer screen

snowmanX = width / 2; // Initialize snowman X position

snowmanY = height - 150;

clouds.push(new Cloud(width / 4, random(50, 150))); // Left cloud

clouds.push(new Cloud(width / 2 + 50, random(50, 150))); // Middle cloud (offset to avoid overlap)

clouds.push(new Cloud(3 \* width / 4, random(50, 150))); // Right cloud

}

function draw() {

background(0); // Refresh background to black

drawSnowGround();

drawMountains();

for (let cloud of clouds) {

cloud.update(mouseX); // Move clouds with mouse

cloud.display();

}

snowmanX = mouseX;

// Draw snowman

drawSnowman();

if (mouseIsPressed) {

createSnowflakes();

}

for (let flake of snowflakes) {

flake.update();

flake.display();

}

}

function drawSnowman() {

fill(255);

stroke(0);

strokeWeight(4);

ellipse(snowmanX, snowmanY, 250, 250); // Bottom circle

ellipse(snowmanX, snowmanY - 150, 160, 160); // Middle circle

ellipse(snowmanX, snowmanY - 250, 120, 120); // Top circle

// Eyes

fill(0);

ellipse(snowmanX - 30, snowmanY - 250, 20, 20); // Left eye

ellipse(snowmanX + 30, snowmanY - 250, 20, 20); // Right eye

// Nose (carrot)

fill(255, 165, 0);

triangle(snowmanX, snowmanY - 250, snowmanX, snowmanY - 240, snowmanX + 35, snowmanY - 245); // Carrot nose

}

// Function to create snowflakes

function createSnowflakes() {

if (frameCount % 3 === 0) { // Create a snowflake every few frames

let snowflake = new Snowflake();

snowflakes.push(snowflake);

}

}

// Snowflake class

class Snowflake {

constructor() {

this.x = random(width); // Random x position

this.y = 0; // Start at the top

this.size = random(5, 15); // Random size

}

update() {

this.y += 2;

if (this.y > height) {

this.y = 0;

this.x = random(width);

}

}

display() {

fill(255);

noStroke();

ellipse(this.x, this.y, this.size);

}

}

class Cloud {

constructor(x, y) {

this.x = x;

this.y = y;

this.size = random(100, 160);

}

update(mouseX) {

this.x = mouseX - this.size / 2;

this.x = constrain(this.x, 0, width - this.size);

}

display() {

fill(255, 255, 255, 200);

noStroke();

ellipse(this.x, this.y, this.size, this.size \* 0.6); // Main body

ellipse(this.x + this.size \* 0.2, this.y, this.size \* 0.8, this.size \* 0.6);

ellipse(this.x - this.size \* 0.2, this.y, this.size \* 0.8, this.size \* 0.6);

}

}

// Function to draw snow on the ground

function drawSnowGround() {

fill(255); // White color for snow

noStroke();

rect(0, height - 50, width, 50);

}

// Function to draw mountains

function drawMountains() {

fill(255); // White color for mountains

noStroke();

triangle(0, height - 50, 200, 150, 400, height - 50);

triangle(200, height - 50, 600, 100, 800, height - 50);

}