The first one is the image about trigonometric function,which has variations in the color and size.The second one is a clock with variations in the color of the hour hand and its rotate.The second one is a square with a gradient with I put a lot of effort in it and a circle’change in color.The fourth is two ball randomly roll around and when they crash with each other the color and the speed will have a change.

The third one which seems to be a easy one needs much efforts actually.I use function for loop to divide a big pattern into many parts and map function to restrict the color to create the gradient ramp.

The fourth is the most interesting one.Initially,I want to showcase the picture of Windows screensaver where many bubble roam in the screen and when they crash each other will have a change in color.But I find it too difficult to draw many bubbles because their distance between the center is difficult to manage when the number increasing.So I create two balls and have some innovation on their speed.They will be quicker and quicker when after many crashs just like they are battling with each other in a restricted area.And Also they will rebound when they reach the edge.

let x, y,x1,y1, dia, xSpeed, ySpeed;

let xS1peed, y1Speed;

function setup() {

createCanvas(400, 400);

x = width / 2;

y = height / 2;

x1=0

y1=0

xSpeed = random(-5, 5);

ySpeed = random(-5, 5);

x1Speed = random(-5, 5);

y1Speed = random(-5, 5);

}

dia = 80;

function draw() {

background(220);

if (x < 0 || x > width) {

xSpeed = xSpeed \* -1;

// fill(random(255), random(255), random(255));

// dia = random(100);

}

if (y < 0 || y > height) {

ySpeed = ySpeed \* -1;

// fill(random(255), random(255), random(255));

// dia = random(100);

}

if (x1 < 0 || x1 > width) {

x1Speed = x1Speed \* -1;

// fill(random(255), random(255), random(255));

// dia = random(100);

}

if (y1 < 0 || y1 > height) {

y1Speed = y1Speed \* -1;

// fill(random(255), random(255), random(255));

// dia = random(100);

}

x1=x1+x1Speed

x += xSpeed;

y += ySpeed;

y1=y1+y1Speed;

let d = dist(x1, y1, x, y);

if(d<=dia){

y1Speed = y1Speed \* -1.2;

x1Speed = x1Speed \* -1.2;

ySpeed = ySpeed \* -1.2;

xSpeed = xSpeed \* -1.2;

fill(random(255), random(255), random(255),

);

if(xSpeed>=10||ySpeed>=20||x1Speed>=10||y1Speed>=10||xSpeed<=-20||ySpeed<=-20||x1Speed<=-20){

xSpeed = random(-5,5)

ySpeed=random(-5,5)

x1Speed = random(-5,5)

y1Speed=random(-5,5)

}

}

circle(x, y, dia);

circle(x1,y1, dia);

// text(x, x - 10, y + 30);

}

let x=0

function setup() {

createCanvas(400, 400);

background(220);

}

let y=width/2

function draw() {

let freq=frameCount\*0.1

let y=width/2

x+=1

let amp=199

let sinv=sin(freq)\*amp

stroke(random(100),50,30)

strokeWeight(random(30))

circle(x,y+sinv,5)

}let x, y, dia;

let xSpeed, ySpeed;

let r = 0;

function setup() {

createCanvas(700, 400);

background(220);

// x = width / 2;

// y = height / 2;

// dia = 30;

// xSpeed = random(-5, 5);

// ySpeed = random(-5, 5);

angleMode(DEGREES);

}

let G;

function draw() {

background(220);

// move

x = x + xSpeed;

y = y + ySpeed;

// rect(250,250,30)

for (G = 100; G <= 380; G += 1) {

// console.log(G)

r = sin(G \* 0.1) \* 150;

r = map(r, -150, 150, 0, 255);

noStroke();

fill(r, 200, 200);

rect(G-100, 50, 1, 280);

}

for (let q = 0; q <= 360; q += 0.1) {

let x1;

x1 = sin(q) \* 150 + 500;

let y1;

y1 = cos(q) \* 150 + 150;

r = sin(q \* 0.5) \* 100;

r = map(r, -150, 150, 0, 255);

stroke(r, random(200), 150);

line(500, 150, x1, y1);

}

// if (x < 0 || x > width) {

// xSpeed = xSpeed \* -1;

// fill(random(255),random(255),random(255))

// dia=random(100)

// }

// if (y < 0 || y > height) {

// ySpeed = ySpeed \* -1;

// fill(random(255),random(255),random(255))

// dia=random(100)

// }

// circle(x, y, dia);

//text(x, x - 10, y + 30);

}

function setup() {

createCanvas(600, 400);

background(100);

}

function draw() {

background(220,random(100));

let fre = frameCount \* 0.03;

let sinv = sin( fre )\*150;

let cosv= cos(fre)\*150

let x = width/2+cosv

let y = height/2+sinv

let dia = map(sinv, -1, 1, 50, 150);

//noStroke();

noFill();

fill(255,0,0)

stroke(random(255),random(255),random(255))

noStroke()

circle(x, y, 30);

stroke(0, random(100, 255), random(255));

line(width/2, height/2, x, y);

}

The first one:<iframe src="https://editor.p5js.org/Bob-wentao/full/04BBQcr12"></iframe>

Second :<iframe src="https://editor.p5js.org/Bob-wentao/full/nlkvNiXOT"></iframe>

Third:https://editor.p5js.org/Bob-wentao/full/DjtOUPDpI

Forth：https://editor.p5js.org/Bob-wentao/full/NfpBSmzYg