**Project1: x bounce**

let myBall;

function setup() {

 createCanvas(400, 400);

 myBall = new Ball;

}

function draw() {

 background(220);

 myBall.display();

 myBall.bounce();

 myBall.move();

}

class Ball{

 constructor(){

 this.ballX = 200;

 this.ballY = 100;

 this.speedX = 1;

 }

 display(){

 fill(255,255,0);

 circle(this.ballX,this.ballY,40);

 }

 bounce(){

 if(this.ballX > width || this.ballX < 0){

 this.speedX = this.speedX \* (-1);

 }

 }

 move(){

 this.ballX = this.ballX + this.speedX;

 }

}

**Project2: XY bounce**

let myBall;

function setup() {

 createCanvas(400, 400);

 myBall = new Ball;

}

function draw() {

 background(220);

 myBall.display();

 myBall.bounce();

 myBall.move();

}

class Ball{

 constructor(){

 this.ballX = 200;

 this.ballY = 100;

 this.speedX = 1;

 this.speedY = 2;

 }

 display(){

 fill(255,255,0);

 circle(this.ballX,this.ballY,40);

 }

 bounce(){

 if(this.ballX > width || this.ballX < 0){

 this.speedX = this.speedX \* (-1);

 }

 if(this.ballY > height || this.ballY < 0){

 this.speedY = this.speedY \* (-1);

 }

 }

 move(){

 this.ballX = this.ballX + this.speedX;

 this.ballY = this.ballY + this.speedY;

 }

}

**Project-3: XY bounce with custom starting values for its instance variables**

let myBall;

function setup() {

 createCanvas(400, 400);

 myBall = new Ball(200,100,1,2);

}

function draw() {

 background(220);

 myBall.display();

 myBall.bounce();

 myBall.move();

}

class Ball{

 constructor(x,y,vx,vy){

 this.ballX = x;

 this.ballY = y;

 this.speedX = vx;

 this.speedY = vy;

 }

 display(){

 fill(255,255,0);

 circle(this.ballX,this.ballY,40);

 }

 bounce(){

 if(this.ballX > width || this.ballX < 0){

 this.speedX = this.speedX \* (-1);

 }

 if(this.ballY > height || this.ballY < 0){

 this.speedY = this.speedY \* (-1);

 }

 }

 move(){

 this.ballX = this.ballX + this.speedX;

 this.ballY = this.ballY + this.speedY;

 }

}

**Project-4: 2 balls bounce**

let myBall1;

let myBall2;

function setup() {

 createCanvas(400, 400);

 myBall1 = new Ball(200,100,1,2);

 myBall2 = new Ball(100,200,2,1);

}

function draw() {

 background(220);

 myBall1.display();

 myBall1.bounce();

 myBall1.move();

 myBall2.display();

 myBall2.bounce();

 myBall2.move();

}

class Ball{

 constructor(x,y,vx,vy){

 this.ballX = x;

 this.ballY = y;

 this.speedX = vx;

 this.speedY = vy;

 }

 display(){

 fill(255,255,0);

 circle(this.ballX,this.ballY,40);

 }

 bounce(){

 if(this.ballX > width || this.ballX < 0){

 this.speedX = this.speedX \* (-1);

 }

 if(this.ballY > height || this.ballY < 0){

 this.speedY = this.speedY \* (-1);

 }

 }

 move(){

 this.ballX = this.ballX + this.speedX;

 this.ballY = this.ballY + this.speedY;

 }

}

**Project-5: Many balls bounce**

let myBall = [];

function setup() {

 createCanvas(400, 400);

 for (let i=0; i<10; i++){

 myBall[i]= new Ball(random(width),random(height),random(3),random(3));

 }

 }

function draw() {

 background(220);

 for (let i=0; i<myBall.length; i++){

 myBall[i].display();

 myBall[i].bounce();

 myBall[i].move();

 }

}

class Ball{

 constructor(x,y,vx,vy){

 this.ballX = x;

 this.ballY = y;

 this.speedX = vx;

 this.speedY = vy;

 }

 display(){

 noStroke();

 fill(50);

 circle(this.ballX,this.ballY,40);

 }

 bounce(){

 if(this.ballX > width || this.ballX < 0){

 this.speedX = this.speedX \* (-1);

 }

 if(this.ballY > height || this.ballY < 0){

 this.speedY = this.speedY \* (-1);

 }

 }

 move(){

 this.ballX = this.ballX + this.speedX;

 this.ballY = this.ballY + this.speedY;

 }

}

**Project-6: Mouse press add ball and key press remove ball**

let myBall = [];

function setup() {

 createCanvas(400, 400);

 }

function draw() {

 background(220);

 for (let i=0; i<myBall.length; i++){

 myBall[i].display();

 myBall[i].bounce();

 myBall[i].move();

 }

}

function mousePressed(){

 myBall.push(new Ball(mouseX, mouseY, 1,1));

}

function keyPressed(){

 myBall.pop();

}

class Ball{

 constructor(x,y,vx,vy){

 this.ballX = x;

 this.ballY = y;

 this.speedX = vx;

 this.speedY = vy;

 }

 display(){

 noStroke();

 fill(50);

 circle(this.ballX,this.ballY,40);

 }

 bounce(){

 if(this.ballX > width || this.ballX < 0){

 this.speedX = this.speedX \* (-1);

 }

 if(this.ballY > height || this.ballY < 0){

 this.speedY = this.speedY \* (-1);

 }

 }

 move(){

 this.ballX = this.ballX + this.speedX;

 this.ballY = this.ballY + this.speedY;

 }

}

**Project-6: if mouse if pressed conditin**

let myBall = [];

function setup() {

 createCanvas(400, 400);

 }

function draw() {

 background(220);

 if (mouseIsPressed){

 myBall.push(new Ball(mouseX, mouseY, random(2),random(2)));

 }

 for (let i=0; i<myBall.length; i++){

 myBall[i].display();

 myBall[i].bounce();

 myBall[i].move();

 }

}

class Ball{

 constructor(x,y,vx,vy){

 this.ballX = x;

 this.ballY = y;

 this.speedX = vx;

 this.speedY = vy;

 }

display(){

 noStroke();

 fill(125,100,220);

 circle(this.ballX,this.ballY,4);

 }

 bounce(){

 if(this.ballX > width || this.ballX < 0){

 this.speedX = this.speedX \* (-1);

 }

 if(this.ballY > height || this.ballY < 0){

 this.speedY = this.speedY \* (-1);

 }

 }

 move(){

 this.ballX = this.ballX + this.speedX;

 this.ballY = this.ballY + this.speedY;

 }

}