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APCS Principles, Period 1

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<p style="text-align:center">Lab 1209 Ball Sort</p>

```
//  Ziggy Sheynin

//   Lab 1209 Ball Sort

//  This is a comment

//  The setup function function is called once when your program

begins


var balls=[];


function setup(){

  var cnv=createCanvas(800,800);

  cnv.position((windowWidth-width)/2,30);

  background(3);

  loadBalls();


  for(var i=0; i<balls.length; i++){ //for loop traverse array

    balls[i].render();

  }

}//end set up
```

```
function draw(){ //runs at 30 fps

  bubblesort();

}



function update(){ //to animate

  for(var i=0; i<balls.length; i++){

    balls[i].set(i);

  }

  background(3);

  for(var i=0; i<balls.length; i++){

    balls[i].render();

  }

} //end update



function bubblesort(){ //checks red value to sort them

    for (var j=0; j<balls.length-1; j++){

      if(balls[j].red<balls[j+1].red){

        swap(balls, j, j+1);

        update();

      }

    }

  }
```

```
function loadBalls(){ //creates balls with values

  for (var x=0; x<20; x++){

    balls[x]= new Ball((40*x),400,40,40)

  }

}



function swap(list,a,b){

  var temp=list[a];

  list[a]=list[b];

  list[b]=temp;

}



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//   Lab 1209 Ball Sort

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class Ball{
```

```
   constructor(x,y,w,h,red,g,b){

      this.loc=createVector(x,y);

      this.w=w;

      this.h=h;

      this.red=random(255);

      this.g=0;

      this.b=0;

   }



render(){

   fill(this.red,this.g,this.b);

   ellipse(this.loc.x+20,this.loc.y,this.w,this.h);

}



set(i){

   this.loc.x=i*40;

}



}// ++++++++ end ball class



<!DOCTYPE html>

<html>

   <head>
```

```html
    <meta charset="UTF-8">

    <title>Ball Sort</title>

    <script src="libraries/p5.js"

type="text/javascript"></script>

    <script src="libraries/p5.dom.js"

type="text/javascript"></script>

    <script src="libraries/p5.sound.js"

type="text/javascript"></script>

    <script src="sketch.js" type="text/javascript"></script>

    <script src="balls.js" type="text/javascript"></script>


    <style> body {padding: 0; margin: 0;} canvas

{vertical-align: top;} </style>

  </head>



  <body>

  </body>

</html>
```