

```

1  class Hornet{
2
3      constructor(canvasBoundX, canvasBoundY){
4          this.canvas = null;
5          this.context = null;
6
7          this.canvasBoundX = canvasBoundX;
8          this.canvasBoundY = canvasBoundY;
9
10         this.speed = 2;
11         this.isActive = false;
12
13         this.x = Math.floor(Math.random() * this.canvasBoundX) - (this.canvasBoundX / 2)
14         this.y = Math.floor(Math.random() * this.canvasBoundY) - (this.canvasBoundY / 2)
15         this.strength = Math.floor(Math.random() * 25);
16
17         this.image = new Image();
18         this.stinger = new Image();
19
20         this.image.src = "resources/hornet left.png";
21         this.stinger.src = "resources/stinger left.png";
22     }
23
24     writeText(text, x, y){
25         context.font = "30px Arial";
26         context.fillStyle = "#FF0000";
27         context.fillText(text, x, y);
28     }
29
30     update(meat, hornets){
31         if(this.isActive){
32
33             if(this.isStrongest(hornets) && this.getActiveHornets(hornets) > 1){
34                 this.pursuitWeakest(hornets);
35             }
36             else{
37                 this.speed = 1;
38                 this.pursuit(meat.x, meat.y);
39             }
40         }
41     }
42
43     pursuitWeakest(hornets){
44         var lowestStrength = 100;
45         var hornetID = -1;
46
47         for(var i = 0; i < hornets.length; i++){
48             var currentHornet = hornets[i];
49
50             if(currentHornet.strength < lowestStrength && currentHornet.isActive){
51                 lowestStrength = currentHornet.strength;
52                 hornetID = i;
53             }
54         }
55
56         this.speed = 1;
57         this.pursuit(hornets[hornetID].x, hornets[hornetID].y);
58     }
59
60     pursuit(targetX, targetY){
61         var deltaX = this.x - targetX;
62         var deltaY = this.y - targetY;
63
64         var angle;
65
66         angle = Math.PI + Math.atan2(deltaY, deltaX);
67
68         var xSpeed = Math.cos(angle) * this.speed;

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70     var ySpeed = Math.sin(angle) * this.speed;
71
72     if(xSpeed && ySpeed){
73         this.move(xSpeed, ySpeed);
74         var x = 0;
75     }
76     else{
77         this.place(this.x, this.y);
78     }
79 }
80
81 move(xSpeed, ySpeed){
82     if(xSpeed > 0){
83         this.image.src = "resources/hornet right.png";
84         this.stinger.src = "resources/stinger right.png";
85     }
86     else{
87         this.image.src = "resources/hornet left.png";
88         this.stinger.src = "resources/stinger left.png";
89     }
90
91     this.x += xSpeed;
92     this.y += ySpeed;
93
94     this.place(this.x, this.y);
95 }
96
97 place(x, y){
98     this.x = x;
99     this.y = y;
100
101     this.context.drawImage(
102         this.image,
103         (this.x + (this.canvasBoundX / 2)) - 25,
104         -(this.y - (this.canvasBoundY / 2)) - 25,
105         50,
106         50
107     );
108
109     this.context.drawImage(
110         this.stinger,
111         (this.x + (this.canvasBoundX / 2)) - this.strength + 5,
112         -(this.y - (this.canvasBoundY / 2)) - this.strength + 35,
113         this.strength,
114         this.strength
115     );
116 }
117
118 respawn(){
119     this.isActive = true;
120
121     this.place(
122         Math.floor(Math.random() * this.canvasBoundX) - (this.canvasBoundX / 2),
123         Math.floor(Math.random() * this.canvasBoundY) - (this.canvasBoundY / 2)
124     );
125 }
126
127 isStung(hornets){
128
129     for(var i = 0; i < hornets.length; i++){
130         var currentHornet = hornets[i];
131
132         if(
133             Math.abs(currentHornet.x - this.x) < 25 &&
134             Math.abs(currentHornet.y - this.y) < 25 &&
135             currentHornet.strength > this.strength)
136             return true;
137
138     }

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139
140     return false;
141 }
142
143 touchesMeat(meat){
144     return Math.abs(meat.x - this.x) < 25 &&
145         Math.abs(meat.y - this.y) < 25;
146 }
147
148 isStrongest(hornets){
149     var highestStrength = 0;
150
151     for(var i = 0; i < hornets.length; i++){
152         var currentHornet = hornets[i];
153
154         if(currentHornet.strength > highestStrength)
155             highestStrength = currentHornet.strength;
156     }
157
158     return this.strength >= highestStrength;
159 }
160
161 getActiveHornets(hornets){
162     var numAlive = 0;
163
164     for(var i = 0; i < hornets.length; i++){
165         if(hornets[i].isActive)
166             numAlive++;
167     }
168
169     return numAlive;
170 }
171 }
```