

```

1  import pkg.*;
2  import java.util.ArrayList;
3  import java.util.List;
4  public class starter implements InputControl, InputKeyControl
5  {
6
7      // The following method sets the difficulty of the game according to the user's input
8      public static void difficulty(int complexity)
9      {
10         EasyReader input = new EasyReader();
11         System.out.print("What difficulty would you like? Please type Easy or Hard:
12         ");
13         String in_put = input.readLine();
14
15         if(in_put.equals("Easy"))
16         {
17             System.out.println("Easy Mode Activated");
18             iy=1.25;
19             size=complexity;
20             carsize=size;
21         }
22
23         else if(in_put.equals("Hard"))
24         {
25             System.out.println("Hard Mode Activated");
26             iy=4.5;
27             size=complexity+8;
28             carsize=size;
29         }
30
31         else
32         {
33             System.out.println("\n Error: '" + in_put + "' is not a difficulty
34             option. \n");
35             difficulty(complexity);
36         }
37     }
38
39     //This method makes sure to check if they are any overlapping cars and if their
40     are then it adjusts it accordingly
41     public static int locate(ArrayList<Integer> tracking, int track)
42     {
43         for(int a =0; a<tracking.size()-1;a++)
44         {
45             if(track == tracking.get(a))
46             {
47                 track = locate(tracking, Canvas.rand(1350)-375);
48             }
49         }
50         tracking.add(track);
51         return track;
52     }
53
54
55     private static List<Vehicle> jefz;
56     private static List<Integer> holder;
57     private static ArrayList<Integer> tracker;
58     private static happyFace joe;
59     private static Rectangle button;
60     private static Rectangle mouser;
61     private static boolean piggy;
62     private static double faceSpeed =8;
63     private static double diagmove = 0.5*Math.sqrt(2);
64
65     private static double iy = 2.0;
66

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67     private static int size;
68     private static int carsize;
69
70     public static void main(String args[])
71     {
72
73         MouseController mC = new MouseController(Canvas.getInstance(), new starter());
74         KeyController kC = new KeyController(Canvas.getInstance(), new starter());
75
76
77         jefz = new ArrayList<Vehicle>();
78         holder = new ArrayList<Integer>();
79         tracker = new ArrayList<Integer>();
80
81         difficulty(8);
82
83
84         Text bob = new Text(700, 332.5, "Click Here To Begin!");
85         bob.setColor(Color.WHITE);
86         bob.grow(155, 75);
87         button = new Rectangle(500, 275, 450, 150);
88         button.setColor(Color.RED);
89
90         Text bobt = new Text(700, 332.5, "You Win! Click To Begin Level !");
91         bobt.setColor(Color.BLUE);
92         bobt.grow(255, 75);
93
94         Text bobto = new Text(700, 332.5, "You Lose! ");
95         bobto.setColor(Color.BLUE);
96         bobto.grow(255, 75);
97
98         EasyReader joer = new EasyReader("High_Score.txt");
99         int score = joer.readInt();
100        Text sup = new Text(70, 10, "High Score: Level "+score);
101        //19
102        sup.setColor(Color.RED);
103        sup.grow(55, 20);
104        sup.draw();
105
106        Text sup2 = new Text(1110, 10, "Your Current Score: Level 1");
107        //27
108        sup2.setColor(Color.BLUE);
109        sup2.grow(78, 20);
110        sup2.draw();
111        int y = 0;
112
113        int nene = 1;
114
115
116
117
118
119
120        Color nk = new Color(82, 190, 128);
121        for (int xe=0; xe<=5; xe++)
122        {
123            Rectangle Jeff = new Rectangle(-1, 110*xe, 1404, 110);
124            Jeff.fill();
125            if (xe%2 == 0)
126            {
127                Jeff.setColor(Color.BLACK);
128                Jeff.draw();
129            }
130            else
131            {
132
133                Jeff.setColor(nk);
134            }
135        }

```

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136     joe = new happyFace(660,561);
137     joe.fill();
138
139
140
141
142     int scorer = 1;
143     int tt=1;
144     boolean jok = true;
145     int qq=0;
146
147
148
149
150
151
152     for(int i = 0; i<size; i++)
153     {
154         int p = locate(tracker,Canvas.rand(1350)-375);
155
156
157         int pr = Canvas.rand(5);
158         int d =Canvas.rand(255);
159         int dt =Canvas.rand(255);
160         int dty =Canvas.rand(255);
161         Color ni = new Color(d,dt,dty);
162
163
164
165         if(Canvas.rand(5) == 1)
166         {
167             jefz.add(new Tractor(p, (pr*110)+13.25));
168             jefz.get(i).setStep(iy+0.25);
169             holder.add(i);
170             jefz.get(i).fill();
171         }
172         else{
173             jefz.add(new Car(p, (pr*110)+13.25, "vroom", ni));
174             jefz.get(i).setStep(iy);
175             jefz.get(i).fill();
176         }
177
178
179         for(int t = 0; t<jefz.size()-1;t++)
180         {
181             if(jefz.get(i).contains(jefz.get(t)))
182             {
183                 jefz.get(i).translate(Canvas.rand(200)-100,Canvas.rand(5)*110);
184             }
185         }
186     }
187
188     System.out.println(jefz);
189     System.out.println("\n" +holder );
190     button.fill(); bob.draw();
191     while(!piggy)
192     {
193
194         Canvas.pause(1);
195     }
196     button.translate(-1500,-1500);
197     bob.translate(-1500,-1500);
198     piggy = false;
199     while(true)
200     {
201
202         for(int lo =0; lo<jefz.size(); lo++)
203         {

```

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205 Canvas.pause(1);
206 jefz.get(lo).translate(jefz.get(lo).getStep(),0);
207 jefz.get(lo).drive();
208
209 if(joe.getX() > 1350)
210 {
211     joe.translate(-1400,0);
212 }
213 else if(joe.getX() < -50)
214 {
215     joe.translate(1400,0);
216 }
217
218
219
220 for(int i=0; i<holder.size();i++)
221 {
222     if(holder.get(i) == lo)
223     {
224         break;
225     }
226     if(jefz.get(lo).contains(jefz.get(holder.get(i))))
227     {
228         if(Canvas.rand(2) ==1)
229         {
230             for(int a = 0; a<20; a++)
231             {
232                 jefz.get(lo).translate(0,5.5);
233                 System.out.println("A tractor bumped a " +
234                                     jefz.get(lo));
235             }
236         }
237         else
238         {
239             for(int a = 0; a<20; a++)
240             {
241                 jefz.get(lo).translate(0,-5.5);
242                 System.out.println("A tractor bumped a " +
243                                     jefz.get(lo));
244             }
245         }
246     }
247 }
248
249
250 if (joe.crash(jefz.get(lo)))
251 {
252     for(int ppp=0;ppp<jefz.size();ppp++)
253     {
254         jefz.get(ppp).setStep(0);
255     }
256     while (true)
257     {
258
259         bobto.draw();
260         bobto.setColor(new
261             Color(Canvas.rand(255),Canvas.rand(255),Canvas.rand(255)));
262         joe.translate(10000,10000);
263
264         if(((scorer > score)&&jok ))
265         {
266             EasyWriter bobo = new EasyWriter("High_Score.txt");
267             EasyWriter bobo2 = new EasyWriter("High_Score.txt");
268             bobo2.print(scorer);
269             bobo2.close();
270
271             jok = false;

```

```

271
272     }
273
274
275
276     }
277
278     }
279
280
281     if(joe.getY() < -50)
282     {
283         if (tt==1)
284         {
285             nene++;
286             tt=2;
287             button = new Rectangle(425,275,600,150);
288             bobt = new Text(700,332.5,"Click Here To Begin!");
289             bobt.setColor(Color.BLUE);
290             bobt.grow(250,75);
291         }
292
293         button.fill();
294         bobt.setText("You Win! Click To Begin Level "+ nene + " !");
295         bobt.draw();
296         jefz.get(lo).setStep(0);
297         if (piggy)
298         {
299             if(Canvas.rand(4) == 1)
300             {
301                 jefz.add(new
302                 Tractor((Canvas.rand(350)-475),(Canvas.rand(5)*110)+13.25
303                 ));
304                 jefz.get(jefz.size()-1).fill();
305                 holder.add(jefz.size()-1);
306                 System.out.println("A " + jefz.get(jefz.size()-1) + "
307                 has been added");
308             }
309             else
310             {
311                 jefz.add(new
312                 Car((Canvas.rand(350)-475),(Canvas.rand(5)*110)+13.25,
313                 "vroom", new
314                 Color(Canvas.rand(255),Canvas.rand(255),Canvas.rand(255))
315                 ));
316                 jefz.get(jefz.size()-1).fill();
317                 System.out.println("A " + jefz.get(jefz.size()-1) + "
318                 has been added");
319             }
320             for(int t = 0; t<jefz.size()-1;t++)
321             {
322                 if(jefz.get(jefz.size()-1).contains(jefz.get(t)))
323                 {
324                     jefz.get(jefz.size()-1).translate(Canvas.rand(200
325                     )-100,Canvas.rand(5)*110);
326                 }
327             }
328             for(int uy=0;uy<jefz.size();uy++)
329             {
330                 if(jefz.get(uy).getHeight() < 60)
331                 {
332                     jefz.get(uy).setStep(iy+(0.125*iy));
333                 }
334                 else if(jefz.get(uy).getHeight() > 60)
335                 {
336                     jefz.get(uy).setStep(iy);
337                 }
338             }
339         }
340     }
341 }
342
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```

330     }
331     //System.out.println("\n" + jefz + "\n");
332     if (tt==2)
333     {
334         iy =iy+1.15;
335         faceSpeed += 1.075;
336         scorer ++;
337
338
339         tt=1;
340         System.out.println(joe.getY());
341         joe.translate(0,700+ (-1* joe.getY()));
342         System.out.println(joe.getY());
343         button.translate(1550,1550);
344         bobt.translate(1550,1550);
345         //break;
346         piggy=false;
347         sup2.setText("Your Current Score: Level " + scorer);
348     }
349 }
350 }
351 }
352
353
354 }
355
356
357 }
358
359 public void onMouseClick(double x, double y)
360 {
361     mouser = new Rectangle(x-12.5,y-35,10,10);
362     if (button.contains(mouser))
363     {
364         piggy = true;
365     }
366     else
367     {
368         piggy = false;
369     }
370 }
371 }
372
373 public void keyPress(String s)
374 {
375
376     if(s.equals("e"))
377     {
378         joe.translate(diagmove*faceSpeed,- diagmove*faceSpeed);
379     }
380
381     if(s.equals("q"))
382     {
383         joe.translate(- diagmove*faceSpeed,- diagmove*faceSpeed);
384     }
385
386     if(s.equals("c"))
387     {
388         joe.translate(diagmove*faceSpeed,diagmove*faceSpeed);
389     }
390     if(s.equals("z"))
391     {
392         joe.translate(- diagmove*faceSpeed,diagmove*faceSpeed);
393     }
394
395     if(s.equals("w"))
396     {
397         joe.translate(0,-faceSpeed);
398     }

```

```
399
400     if(s.equals("a"))
401     {
402         joe.translate(-faceSpeed,0);
403     }
404     if(s.equals("s"))
405     {
406         joe.translate(0,faceSpeed);
407     }
408     if(s.equals("d"))
409     {
410         joe.translate(faceSpeed,0);
411     }
412
413
414
415     char done = (char)10;
416     String temp = Character.toString(done);
417
418 }
419
420
```