

Exercise: Final Project | CMU CS Academy

```

1 app.stepsPerSecond=60
2 app.paused=True
3
4
5 #player
6 player = Group(
7     Rect(40,350,20,20, fill='red'),
8     )
9 player.dy=-1
10 player.dx=0
11 player.isJumping=False
12 player.inAir=False
13
14
15 #room 1
16 room1 = Group(
17     Rect(0,0,400,400, fill='lightBlue'),
18     Rect(233,125,30,150, fill=gradient('black','grey','grey', start='top'), opacity=50
19     ),
20     Rect(233,220,34,50, fill='fireBrick'),
21     Rect(230,280,100,90, fill='tan'),
22     Rect(290,335,25,35, fill='saddleBrown'),
23     Rect(30,360,150,10, fill='khaki'),
24     Rect(0,370,400,30, fill='green'),
25     Polygon(210,285,280,230,350,285, fill='darkKhaki'),
26     )
27 f1 = Rect(175,330,10,60, fill='sienna')
28 f2 = Rect(25,330,10,60, fill='sienna')
29 p1 = Rect(230,220,40,5)
30 roofp = Line(210,285,350,285, fill='cornSilk', lineWidth=4)
31 floor = Rect(0,370,400,30, fill=None)
32
33 cloud1 = Circle(150,180,20, fill='white')
34 cloud2 = Circle(170,190,15, fill='white')
35 cloud3 = Circle(130,185,17, fill='white')
36
37 smoke1 = Circle(250,110,20, fill='black', opacity=50)
38 smoke2 = Circle(265,115,15, fill='black', opacity=50)
39 smoke3 = Circle(240,120,17, fill='black', opacity=50)
40
41 cloud4 = Circle(350,40,20, fill='white')
42 cloud5 = Circle(330,45,15, fill='white')
43 cloud6 = Circle(370,35,17, fill='white')
44
45 room1.add (
46     p1,
47     floor,
48     roofp,
49     Rect(30,370,150,20, fill='peru'),
50     f1,
51     f2,
52     cloud1,
53     cloud2,

```

```
54     cloud3,
55     smoke1,
56     smoke2,
57     smoke3,
58     cloud4,
59     cloud5,
60     cloud6
61 )
62
63
64
65
66 room2 = Group(
67     Rect(0,0,400,400, fill='lightBlue'),
68     Line(340,190,410,250, lineWidth=4, fill='saddleBrown'),
69     Rect(320,190,100,10,fill='saddleBrown')
70 )
71
72
73 cloud7 = Circle(200,360,20, fill='white')
74 cloud8 = Circle(220,370,15, fill='white')
75 cloud9 = Circle(185,345,17, fill='white')
76
77 cloud10 = Circle(90,270,20, fill='white')
78 cloud11 = Circle(105,280,15, fill='white')
79 cloud12 = Circle(75,275,17, fill='white')
80
81 cloud13 = Circle(280,250,20, fill='white')
82 cloud14 = Circle(295,255,15, fill='white')
83 cloud15 = Circle(265,265,17, fill='white')
84
85 balF = Rect(325,170,5,25,fill='tan')
86 bal = Rect(320,187,100,10,fill='saddleBrown')
87
88 door1 = Rect(390,100,10,90, fill=None)
89
90
91
92 room2.add(
93     cloud7,
94     cloud8,
95     cloud9,
96     cloud10,
97     cloud11,
98     cloud12,
99     cloud13,
100    cloud14,
101    cloud15,
102    balF,
103    bal,
104    door1
105 )
106
107
108 room3 = Group(
109     Label('THE END!', 200,200, size=40)
110 )
```

```
111 room3.visible=False
112
113
114 room2.visible=False
115
116 #movement
117
118
119 def onKeyHold(keys):
120     if('d' in keys):
121         player.dx=2
122     if('a' in keys):
123         player.dx=-2
124
125 def onKeyRelease(keys):
126     if('d' in keys):
127         player.dx=0
128     if('a' in keys):
129         player.dx=0
130
131 def onKeyPress(key):
132     if(key=='space'):
133         screenBack.visible=False
134         words1.visible=False
135         words2.visible=False
136         name.visible=False
137         player.toFront()
138         app.paused=False
139
140
141     if(player.isJumping==False):
142         if(key=='space'):
143             player.centerY-=65
144             player.isJumping=True
145
146
147 def onStep():
148     player.centerY-=player.dy
149     player.centerX+=player.dx
150     player.dy=-1.5
151
152
153     if(player.isJumping==True):
154         player.inAir=True
155     elif(player.isJumping==False):
156         player.inAir=False
157     if(player.inAir==True):
158         player.dy=-1.5
159     elif(player.inAir==False):
160         player.dy=0
161
162
163     if(room1.visible==True):
164         if(player.bottom<=0):
165             room1.visible=False
166             room2.visible=True
167             player.centerY = 300
```

```
168         player.toFront()
169
170     if(room2.visible==True):
171         if(player.top>=400):
172             room2.visible=False
173             room1.visible=True
174             player.top=0
175             player.toFront()
176         if(player.hitsShape(door1)):
177             room2.visible=False
178             room3.visible=True
179
180
181
182
183     if(room1.visible==True):
184         if(player.hitsShape(floor)):
185             player.isJumping=False
186         else:
187             player.isJumping=True
188
189         if(player.hitsShape(p1)):
190             player.isJumping=False
191         else:
192             player.inAir=True
193
194         if(player.hitsShape(f1)):
195             player.isJumping=False
196         else:
197             player.inAir=True
198
199         if(player.hitsShape(f2)):
200             player.isJumping=False
201         else:
202             player.inAir=True
203
204         if(player.hitsShape(roofp)):
205             player.isJumping=False
206         else:
207             player.inAir=True
208
209         if(player.hitsShape(cloud1)):
210             player.isJumping=False
211         else:
212             player.inAir=True
213
214         if(player.hitsShape(cloud2)):
215             player.isJumping=False
216         else:
217             player.inAir=True
218
219         if(player.hitsShape(cloud3)):
220             player.isJumping=False
221         else:
222             player.inAir=True
223
224         if(player.hitsShape(smoke1)):
```

```
225         player.isJumping=False
226     else:
227         player.inAir=True
228
229     if(player.hitsShape(smoke2)):
230         player.isJumping=False
231     else:
232         player.inAir=True
233
234     if(player.hitsShape(smoke3)):
235         player.isJumping=False
236     else:
237         player.inAir=True
238
239     if(player.hitsShape(cloud4)):
240         player.isJumping=False
241     else:
242         player.inAir=True
243
244     if(player.hitsShape(cloud5)):
245         player.isJumping=False
246     else:
247         player.inAir=True
248
249     if(player.hitsShape(cloud6)):
250         player.isJumping=False
251     else:
252         player.inAir=True
253
254
255     if(room2.visible==True):
256         if(player.hitsShape(cloud7)):
257             player.isJumping=False
258         else:
259             player.isJumping=True
260
261         if(player.hitsShape(cloud8)):
262             player.isJumping=False
263         else:
264             player.inAir=True
265
266         if(player.hitsShape(cloud9)):
267             player.isJumping=False
268         else:
269             player.inAir=True
270
271         if(player.hitsShape(cloud10)):
272             player.isJumping=False
273         else:
274             player.inAir=True
275
276         if(player.hitsShape(cloud11)):
277             player.isJumping=False
278         else:
279             player.inAir=True
280
281         if(player.hitsShape(cloud12)):
```

```
282         player.isJumping=False
283     else:
284         player.inAir=True
285
286     if(player.hitsShape(cloud13)):
287         player.isJumping=False
288     else:
289         player.inAir=True
290
291     if(player.hitsShape(cloud14)):
292         player.isJumping=False
293     else:
294         player.inAir=True
295
296     if(player.hitsShape(cloud15)):
297         player.isJumping=False
298     else:
299         player.inAir=True
300
301     if(player.hitsShape(balF)):
302         player.isJumping=False
303     else:
304         player.inAir=True
305
306     if(player.hitsShape(bal)):
307         player.isJumping=False
308     else:
309         player.inAir=True
310
311
312
313 #splash screen
314 screenBack = Rect(0,0,400,400, fill=gradient('white','lightBlue', start='top-left'))
315 words1 = Label('Jumper', 200,140, size=28, fill='yellow', border='darkRed', bold=True,
316               borderWidth=1.3)
317 words2 = Label('Press Space to start!', 200,280, size=17, fill='white')
318 name = Label('@ 2021/22 Jett Jordan', 60,390, size=10, fill='white')
```