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|0 |1 |2 |3 |4 |5 |6 |7 |8
1  # Lair of Doom
2  # Code Angel
3
4  # Classes: Level, Block, LedgeBlock, WaterBlock, DiamondBlock, ExitDoor, DoomMonster
5
6  import pygame
7  import lair_of_doom
8
9  BLOCK_SIZE = 16
10 DOOM_MONSTER_MOVE = 2
11 DOOM_RIGHT = 1
12
13 # Initialise lists
14 ledges = []
15 water = []
16 diamonds = []
17 exit_doors = []
18 doom_monsters = []
19
20
21 # The Level class
22 class Level:
23
24     def __init__(self):
25         self.level_number = 1
26         self.player_start_loc = None
27
28         # delete the ledge, water, diamonds and doom_monster lists
29     def set_up(self):
30         del ledges[:]
31         del water[:]
32         del diamonds[:]
33         del exit_doors[:]
34         del doom_monsters[:]
35
36         if self.level_number == 1:
37             LedgeBlock([0, 29], 35)
38             LedgeBlock([6, 26], 4)
39             LedgeBlock([12, 22], 6)
40             LedgeBlock([7, 18], 4)
41             LedgeBlock([14, 15], 13)
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42 |0 |1 |2 |3 |4 |5 |6 |7 |8
43     LedgeBlock([29, 21], 8)
44     LedgeBlock([36, 16], 4)
45     LedgeBlock([38, 12], 2)
46     LedgeBlock([32, 8], 4)
47     LedgeBlock([20, 8], 8)
48     LedgeBlock([6, 8], 10)
49     LedgeBlock([0, 5], 4)
50
51     WaterBlock([35, 29], 5)
52
53     DoomMonster(20, 28, 34)
54
55     Diamond([16, 21])
56     Diamond([29, 20])
57     Diamond([39, 15])
58     Diamond([24, 7])
59
60     ExitDoor([0, 4])
61
62     self.player_start_loc = [1, 28]
63
64     elif self.level_number == 2:
65         LedgeBlock([0, 26], 22)
66         LedgeBlock([25, 29], 8)
67         LedgeBlock([36, 29], 4)
68         LedgeBlock([39, 24], 1)
69         LedgeBlock([37, 19], 1)
70         LedgeBlock([32, 14], 3)
71         LedgeBlock([6, 17], 22)
72         LedgeBlock([3, 13], 4)
73         LedgeBlock([0, 9], 3)
74         LedgeBlock([10, 10], 8)
75         LedgeBlock([22, 9], 6)
76         LedgeBlock([32, 7], 4)
77         LedgeBlock([37, 5], 3)
78
79         WaterBlock([0, 29], 25)
80         WaterBlock([33, 29], 3)
81
82         Diamond([27, 28])
83         Diamond([19, 16])

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83      |0  |1  |2  |3  |4  |5  |6  |7  |8
84      Diamond([4, 12])
85      Diamond([19, 16])
86      Diamond([24, 8])
87      Diamond([35, 6])
88
89      DoomMonster(8, 25, 19)
90      DoomMonster(6, 16, 14)
91      DoomMonster(22, 16, 27)
92      DoomMonster(10, 9, 17)
93
94      ExitDoor([39, 4])
95      ExitDoor([0, 8])
96
97      self.player_start_loc = [1, 25]
98
99      elif self.level_number == 3:
100         LedgeBlock([0, 26], 5)
101         LedgeBlock([8, 26], 5)
102         LedgeBlock([16, 26], 10)
103         LedgeBlock([29, 26], 10)
104         LedgeBlock([32, 22], 5)
105         LedgeBlock([32, 21], 4)
106         LedgeBlock([32, 20], 3)
107         LedgeBlock([32, 19], 2)
108         LedgeBlock([32, 18], 1)
109         LedgeBlock([21, 18], 8)
110         LedgeBlock([2, 18], 16)
111         LedgeBlock([4, 13], 3)
112         LedgeBlock([10, 11], 26)
113         LedgeBlock([14, 10], 2)
114         LedgeBlock([20, 10], 2)
115         LedgeBlock([27, 10], 2)
116         LedgeBlock([33, 10], 2)
117         LedgeBlock([36, 6], 4)
118         LedgeBlock([14, 3], 18)
119         LedgeBlock([12, 4], 2)
120         LedgeBlock([10, 5], 2)
121         LedgeBlock([7, 6], 3)
122         LedgeBlock([0, 7], 8)
123         LedgeBlock([1, 6], 2)

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124 |0 |1 |2 |3 |4 |5 |6 |7 |8
125     WaterBlock([0, 29], 40)
126     WaterBlock([16, 10], 4)
127     WaterBlock([29, 10], 4)
128     WaterBlock([3, 6], 4)
129
130     DoomMonster(17, 25, 24)
131     DoomMonster(3, 17, 8)
132     DoomMonster(12, 17, 16)
133     DoomMonster(20, 2, 28)
134
135     Diamond([10, 25])
136     Diamond([16, 25])
137     Diamond([25, 25])
138     Diamond([36, 21])
139     Diamond([35, 20])
140     Diamond([34, 19])
141     Diamond([33, 18])
142     Diamond([32, 17])
143     Diamond([10, 17])
144     Diamond([24, 10])
145     Diamond([16, 2])
146     Diamond([11, 4])
147     Diamond([39, 5])
148
149     ExitDoor([0, 6])
150
151     self.player_start_loc = [1, 25]
152
153     def level_up(self):
154         self.level_number += 1
155
156     # The block class - any solid line of blocks
157     class Block:
158         def __init__(self, start_location, block_length):
159             # The number of individual blocks in the full block
160             self.block_length = block_length
161
162             # Start x block
163             x_coord = start_location[0] * BLOCK_SIZE
164
165 |0 |1 |2 |3 |4 |5 |6 |7 |8

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165 |0 |1 |2 |3 |4 |5 |6 |7 |8
166     # Start y block
167     y_coord = start_location[1] * BLOCK_SIZE
168
169     # The full block
170     self.rect = pygame.Rect(x_coord, y_coord, block_length * BLOCK_SIZE, BLOCK_SIZE)
171
172 # Ledge class inherits from the Block class
173 class LedgeBlock(Block):
174     def __init__(self, start_location, block_length):
175         self.image = lair_of_doom.load_media('image', 'ledge')
176         Block.__init__(self, start_location, block_length)
177         ledges.append(self)
178
179
180 # Water class inherits from the Block class
181 class WaterBlock(Block):
182     def __init__(self, start_location, block_length):
183         self.image = lair_of_doom.load_media('image', 'water')
184         Block.__init__(self, start_location, block_length)
185         water.append(self)
186
187
188 # Diamond class inherits from the Block class (only 1 block long)
189 class Diamond(Block):
190     def __init__(self, start_location):
191         self.image = lair_of_doom.load_media('image', 'diamond')
192         Block.__init__(self, start_location, 1)
193         diamonds.append(self)
194
195
196 # Exit Door class inherits from the Block class (only 1 block long)
197 class ExitDoor(Block):
198     def __init__(self, start_location):
199         self.image = lair_of_doom.load_media('image', 'exit')
200         Block.__init__(self, start_location, 1)
201         exit_doors.append(self)
202
203
204 # Doom monster class
205 class DoomMonster:

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207 # Initialise each doom monster with a starting location, and also the point where it will change direction
208 def __init__(self, start_x, start_y, end_x):
209     self.image = lair_of_doom.load_media('image', 'doom_monster')
210     self.start_x_coord = start_x * BLOCK_SIZE
211     self.start_y_coord = start_y * BLOCK_SIZE
212     self.end_x_coord = end_x * BLOCK_SIZE
213     self.monster_move = DOOM_MONSTER_MOVE
214
215     self.direction = DOOM_RIGHT
216     self.x = self.start_x_coord
217     self.y = self.start_y_coord
218
219     self.rect = pygame.Rect(self.x, self.y, BLOCK_SIZE, BLOCK_SIZE)
220
221     doom_monsters.append(self)
222
223 # Move the doom monster horizontally by dx pixels
224 def move(self):
225     self.x += self.monster_move * self.direction
226
227     # If the monster goes beyond its start or end location, change direction
228     if self.x < self.start_x_coord or self.x > self.end_x_coord:
229         # Direction is either 1 or -1
230         # By multiplying direction by -1, it will be the negative of itself
231         self.direction *= -1
232
233     self.rect = pygame.Rect(self.x, self.y, BLOCK_SIZE, BLOCK_SIZE)
234
235

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