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MomonoKawabata 訂正 #9 #10 History

1 contributor

151 lines (116 sloc) | 4.12 KB

```
1 import pygame as pg
2 import random
3 import sys
4
5
6 class Screen:
7     def __init__(self, title, wh, img_path):
8         pg.display.set_caption(title)
9         self.sfc = pg.display.set_mode(wh)
10        self.rct = self.sfc.get_rect()
11        self.bgi_sfc = pg.image.load(img_path)
12        self.bgi_rct = self.bgi_sfc.get_rect()
13
14        def blit(self):
15            self.sfc.blit(self.bgi_sfc, self.bgi_rct)
16
17
18 class Shot: #こうかとんの攻撃手段    (動かない)
19
20     key_shot = {pg.K_SPACE}
21     def __init__(self, color, rad, vxy, scr:Screen):
22         self.sfc = pg.Surface((2*rad, 2*rad)) # 正方形の空のSurface
23         self.sfc.set_colorkey((0, 0, 0))
24         pg.draw.circle(self.sfc, (100,100,100), (rad, rad), rad) #(100,100,100)色の丸を描画
25         self.rct = self.sfc.get_rect()
26         self.rct.centerx = random.randint(0, scr.rct.width)
27         self.rct.centery = random.randint(0, scr.rct.height)
28         self.vx, self.vy = vxy
29
30     def blit(self, scr:Screen):
31         scr.sfc.blit(self.sfc, self.rct)
32
33     def update(self, scr:Screen):
34         self.rct.move_ip(self.vx, self.vy)
35         yoko, tate = check_bound(self.rct, scr.rct)
36         self.vx *= yoko
37         self.vy *= tate
38         self.blit(scr)
39
40 class Bird:
41     key_delta = {
42         pg.K_UP:    [0, -1],
43         pg.K_DOWN:  [0, +1],
44         pg.K_LEFT:  [-1, 0],
45         pg.K_RIGHT: [+1, 0],
46     }
47
48     def __init__(self, img_path, ratio, xy):
49         self.sfc = pg.image.load(img_path)
50         self.sfc = pg.transform.rotozoom(self.sfc, 0, ratio)
51         self.rct = self.sfc.get_rect()
52         self.rct.center = xy
53
54     def blit(self, scr:Screen):
55         scr.sfc.blit(self.sfc, self.rct)
```

```

56
57     def update(self, scr:Screen):
58         key_dct = pg.key.get_pressed()
59         for key, delta in Bird.key_delta.items():
60             if key_dct[key]:
61                 self.rct.centerx += delta[0]
62                 self.rct.centery += delta[1]
63             if check_bound(self.rct, scr.rct) != (+1, +1):
64                 self.rct.centerx -= delta[0]
65                 self.rct.centery -= delta[1]
66         self.blit(scr)
67
68
69 class Bomb:
70     def __init__(self, color, rad, vxy, scr:Screen):
71         self.sfc = pg.Surface((2*rad, 2*rad)) # 正方形の空のSurface
72         self.sfc.set_colorkey((0, 0, 0))
73         pg.draw.circle(self.sfc, color, (rad, rad), rad)
74         self.rct = self.sfc.get_rect()
75         self.rct.centerx = random.randint(0, scr.rct.width)
76         self.rct.centery = random.randint(0, scr.rct.height)
77         self.vx, self.vy = vxy
78
79     def blit(self, scr:Screen):
80         scr.sfc.blit(self.sfc, self.rct)
81
82     def update(self, scr:Screen):
83         self.rct.move_ip(self.vx, self.vy)
84         yoko, tate = check_bound(self.rct, scr.rct)
85         self.vx *= yoko
86         self.vy *= tate
87         self.blit(scr)
88
89
90 def check_bound(obj_rct, scr_rct):
91     """
92     第1引数 : こうかとんrectまたは爆弾rect
93     第2引数 : スクリーンrect
94     範囲内 : +1 / 範囲外 : -1
95     """
96     yoko, tate = +1, +1
97     if obj_rct.left < scr_rct.left or scr_rct.right < obj_rct.right:
98         yoko = -1
99     if obj_rct.top < scr_rct.top or scr_rct.bottom < obj_rct.bottom:
100         tate = -1
101     return yoko, tate
102
103
104 def main():
105     clock =pg.time.Clock()
106
107     # 練習 1
108     scr = Screen("負けるな! こうかとん", (1600,900), "fig/pg_bg.jpg")
109
110     # 練習 3
111     kkt = Bird("fig/6.png", 2.0, (900,400))
112     kkt.update(scr)
113
114     # 練習 5
115     bombs = []
116     colors=["red", "green", "blue", "yellow", "magenta", "greenyellow"] #爆弾を6個にする
117     for i in range(6):
118         color = colors[i]
119         vx = random.choice([-1,+1])
120         vy = random.choice([-1,+1])
121         bombs.append(Bomb(color,10,(vx,vy),scr))
122
123
124     # 練習 2
125
126     while True:
127         scr.blit()
128
129         for event in pg.event.get():

```

```
130         if event.type == pg.QUIT:
131             return
132
133
134
135
136         kkt.update(scr)
137         for bomb in bombs:
138             bomb.update(scr)
139             if kkt.rct.collidect(bomb.rct):
140                 return
141
142         pg.display.update()
143         clock.tick(1000)
144
145
146 if __name__ == "__main__":
147     pg.init()
148     main()
149     pg.quit()
150     sys.exit()
```