【題目】

シューティングゲーム

【ソースコード】

import pgzrun

import random

import math

WIDTH=600

HEIGHT=800

TITLE='SHOOTING'

playership2\_blue = Actor('playership2\_blue.png',topleft=(WIDTH/2,HEIGHT-75))

playership2\_damage3 = Actor('playership2\_damage3',topleft =(WIDTH/2,HEIGHT-75))

enemys = []

tamas = []

missile = []

missiles = []

gamecount = 0

score = 0

damagedtime = 0

delaytime = 0

playtime = 1800

class chart(Actor):

def \_\_init\_\_(self,name,angle):

super().\_\_init\_\_(name)

self.x = playership2\_blue.x

self.y = playership2\_blue.y

self.angle = angle

def update(self):

self.x += math.sin(math.radians(self.angle))\*7

self.y += math.cos(math.radians(self.angle))\*7

def draw():

global score,damagedtime

screen.fill((0,0,0))

if damagedtime > 0:

playership2\_damage3.x = playership2\_blue.x

playership2\_blue.draw()

playership2\_damage3.draw()

else:

playership2\_blue.draw()

for i,missile in enumerate(missiles):

missile.draw()

screen.draw.text(str(i),(missile.x,missile.y),color="BLACK")

for i,obj in enumerate(enemys):

obj.draw()

#screen.draw.text(str(i),(obj.x,obj.y))

for obj in tamas:

obj.draw()

screen.draw.text("SCORE:"+str(score),(0,0),owidth=1.5,ocolor="BLACK",color="YELLOW",fontsize=50)

if playtime == 0:

screen.draw.text("GAME OVER",(80,200),owidth=1.5,ocolor="BLACK",color="RED",fontsize=100)

if score == 100:

screen.draw.text("GAME CLEAR",(60,200),owidth=1.5,ocolor="RED",color="YELLOW",fontsize=100)

def update():

global gamecount,score,damagedtime,playtime,delaytime

if playtime > 0 and score <= 100:

playtime -= 1

if gamecount % 20 == 0:

enemys.append(Actor('enemyblack3.png',(random.randrange(WIDTH),0)))

if keyboard.RIGHT:

if playership2\_blue.x < WIDTH - 35:

playership2\_blue.x += 15

if keyboard.LEFT:

if playership2\_blue.x > 35:

playership2\_blue.x -= 15

for missile in missiles:

missile.update()

for obj in enemys:

obj.y += 8

if obj.y > HEIGHT:

enemys.remove(obj)

del obj

for obj in tamas:

obj.update()

if obj.y < 0 or obj.x < 0 or obj.x > WIDTH or obj.y > HEIGHT:

tamas.remove(obj)

del obj

gamecount +=1

for enemy in enemys:

for tama in tamas:

if enemy.colliderect(tama):

try:

enemys.remove(enemy)

score += 1

except:

print("error")

tamas.remove(tama)

for obj in enemys:

if playership2\_blue.colliderect(obj):

damagedtime = 60

if damagedtime > 0:

damagedtime -= 1

if delaytime > 0:

delaytime -= 1

def on\_key\_down(key):

global damagedtime,delaytime

if key == keys.B:

if damagedtime == 0:

if delaytime == 0:

delaytime = 480

for i in range(100,265,5):

missile = chart("smallball",i)

tamas.append(missile)

if key == keys.SPACE:

if damagedtime == 0:

missile = chart("smallball",180)

tamas.append(missile)

pgzrun.go()

【感想・工夫点など】

シンプルな縦シューティングゲームを作りましたが、自分には難しく、様々な部分で行き詰りました。授業プリントのものと大きくは変わっていないので基盤はできていましたが、少し仕様を変えるだけでもエラーが発生し、特にBキーで撃つ弾幕の判定作りに苦労しました。Pithonの公式サイトやプリントなどを参考にし、delで画面外のオブジェクトを消して処理を軽くする方法や、tryで多少のごり押しが出来ることなどを学べました。