# 准备工作:把06文件复制一份改名07-dad-son-planewar.py

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# 开始开发

## 1.新建一个enemybullet模块在里面定义敌人的子弹类

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## 2.在constants模块里面新建关于enemy\_bullets精灵组

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## 3.回到enemy模块里面的Enemy类，我们来完善enemy\_shoot方法

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# 本节学习到此为止，这一节有更新的模块的内容如下

## enemybullet.py

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| import pygame as pg  from constants import \*  from funcs import \*  enemy\_bullet\_img = pg.transform.scale(pg.image.load(pic\_path+'enemy\_bullet.png'),(15,25))  ene\_shoot\_sound = pg.mixer.Sound(sound\_path+'enemy\_bullet.wav')  class EnemyBullet(pg.sprite.Sprite):      def \_\_init\_\_(self,x,y) -> None:          pg.sprite.Sprite.\_\_init\_\_(self) # 这里不能用super(),必须用pg.sprite.Sprite.\_\_init\_\_(self)          self.image = enemy\_bullet\_img          self.image.set\_colorkey(BLACK)          self.rect = self.image.get\_rect()          self.rect.centerx = x          self.rect.top = y          self.speedy = 5      def update(self):          self.rect.y += self.speedy          if self.rect.top > HEIGHT: # 超出屏幕的子弹会非销毁              self.kill() |

## constants.py

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| import pygame as pg  from os import path  pg.init()       #初始化pygame模块  pg.mixer.init() #初始化pygame模块的音效模块  font\_name = pg.font.match\_font('arial') # 获取系统里面安装了的字体名称  # 实战图片和音效图片路径  pic\_path = './res/images/'  sound\_path = './res/sounds/'  WIDTH = 480      #窗口宽度  HEIGHT = 600     #窗口高度  SIZE = (WIDTH,HEIGHT) #  FPS = 30   # 帧率  # 定义颜色  BLACK = (0,0,0)  WHITE = (255,255,255)  RED = (255,0,0)  GREEN = (0,255,0)  BLUE = (0,0,255)  YELLOW = (255,255,0)  bg = pg.image.load(pic\_path+'startfield.jpg')  bg = pg.transform.scale(bg,(WIDTH,1536))  height = -936  POWERUP\_TIME = 5000  #飞机的火力持续时间  # 精灵组  all\_sprites = pg.sprite.Group()  # 我方子弹精灵组  bullets = pg.sprite.Group()  # 敌机精灵组  enemies = pg.sprite.Group()  # 敌人子弹精灵组  enemy\_bullets = pg.sprite.Group()  # 分数  score = 0  BAR\_LENGTH =100  #血条长度  BAR\_HEIGHT = 10  #血条高度 |

## enemy.py

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| import random as rnd  import pygame as pg  from constants import \*  from funcs import \*  from enemybullet import \*  enemies\_images = [] #保存敌机图片对象的列表  enemies\_list = [      'dj1.png',      'dj2.png',      'dj3.png'  ]  # 加载敌机  for img in enemies\_list:      enemies\_img = pg.image.load(pic\_path+img)      enemies\_img = pg.transform.scale(enemies\_img,(80,60))      enemies\_images.append(enemies\_img)  # 敌机类  class Enemy(pg.sprite.Sprite):      def \_\_init\_\_(self) -> None:          pg.sprite.Sprite.\_\_init\_\_(self) # 调用父类构造函数          self.image\_orig = rnd.choice(enemies\_images) # 随机获取一张图片          self.image\_orig.set\_colorkey(BLACK)          self.image = self.image\_orig.copy()          self.rect = self.image.get\_rect()          self.radius = int(self.rect.width\*.90/2)          self.rect.x = rnd.randrange(0,WIDTH-self.rect.width)          self.rect.y = rnd.randrange(-150,-100)          self.speedy = rnd.randrange(2,5)          self.speedx = rnd.randrange(-3,3)          self.shoot\_delay = 1000          self.last\_shot = pg.time.get\_ticks()      def update(self):          self.rect.x += self.speedx          self.rect.y += self.speedy          if rnd.randrange(10) >= 6:              self.enemy\_shoot()          # 超出范围敌机重生          if(self.rect.top > HEIGHT+10) or (self.rect.left < -25) or (self.rect.right > WIDTH+20):              self.rect.x = rnd.randrange(0,WIDTH-self.rect.width)              self.rect.y = rnd.randrange(-100,-40)              self.speedy = rnd.randrange(1,5)          # 碰到两边会反弹          if self.rect.left < 0 :              self.speedx = -self.speedx          if self.rect.right > WIDTH:              self.speedx = -self.speedx      def enemy\_shoot(self):          now = pg.time.get\_ticks()          if now - self.last\_shot > self.shoot\_delay:              self.last\_shot = now              # d敌机创建子弹              enemy\_bullet = EnemyBullet(self.rect.centerx,self.rect.bottom)              all\_sprites.add(enemy\_bullet)              enemy\_bullets.add(enemy\_bullet)              ene\_shoot\_sound.play() |