# 准备工作：把07文件复制一份，改名08-dad-son-planewar.py

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# reg爆炸图

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# 开始编程

## 1.新建一个explosion模块，在里面新建一个Explosion类

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## 2.在funcs模块里面添加一个我方子弹打中敌人的函数：bullet\_hit\_enemy

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## 3.在08-dad-son-planewar.py添加子弹打中敌人的方法的调用

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# 这一节的学习就到这里。这一节有更新的模块的更新后的代码如下

## explosion.py

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| import pygame as pg  import random as rnd  from constants import \*  from funcs import \*  #加载爆炸图片  explosion\_anim = {}  explosion\_anim['sm'] = []  explosion\_anim['lg'] = []  explosion\_anim['player'] = []  for i in range(8): #敌机，火山石爆炸      filename = 'dd{}.png'.format(i+1)      img = pg.image.load(pic\_path + filename)      img.set\_colorkey(BLACK)      #大爆炸      img\_lg = pg.transform.scale(img,(75,75))      explosion\_anim['lg'].append(img\_lg)      #小爆炸      img\_sm = pg.transform.scale(img,(32,32))      explosion\_anim['sm'].append(img\_sm)      # 玩家爆炸      filename = 'sonic{}.gif'.format(i+1)      img2 = pg.image.load(pic\_path + filename)      explosion\_anim['player'].append(img2)  # 爆炸类  class Explosion(pg.sprite.Sprite):      def \_\_init\_\_(self,center,size):          pg.sprite.Sprite.\_\_init\_\_(self)          self.size = size          self.image = explosion\_anim[size][0]          self.rect = self.image.get\_rect()          self.rect.center = center          self.frame = 0          self.last\_update = pg.time.get\_ticks()          self.frma\_rate = 75      def update(self) -> None:          now = pg.time.get\_ticks()          if now - self.last\_update > self.frma\_rate:              self.last\_update = now              self.frame += 1              if self.frame == len(explosion\_anim[self.size]):                  self.kill()              else:                 center = self.rect.center # 获取上一帧的中心点                 self.image = explosion\_anim[self.size][self.frame]                 self.rect = self.image.get\_rect()                 self.rect.center = center   # 设置到当前帧的中心点 |

## funcs.py

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| import pygame as pg  from constants import \*  from plane import \*  from enemy import \*  from explosion import \*  #绘制文本的函数  def draw\_text(surf,text,size,x,y):      font = pg.font.Font(font\_name,size)      text\_surface = font.render(text,True,WHITE)      text\_rect = text\_surface.get\_rect()      text\_rect.midtop = (x,y)      surf.blit(text\_surface,text\_rect)  def draw\_screen\_text(screen,player1,player2):      draw\_text(screen,str(score),18,WIDTH/2,10) #显示分数      draw\_shield\_bar(screen,5,5,player1.shield)      draw\_shield\_bar(screen,WIDTH-105,5,player2.shield)      draw\_lives(screen,10,20,player1.lives,player\_mini\_img1)      draw\_lives(screen,WIDTH-100,20,player2.lives,player\_mini\_img2)  # 绘制血条  def draw\_shield\_bar(screen,x,y,pct):      pct = max(pct,0)      fill = (pct/100) \* BAR\_LENGTH      outline\_rect = pg.Rect(x,y,BAR\_LENGTH,BAR\_HEIGHT)      fill\_rect = pg.Rect(x,y,fill,BAR\_HEIGHT)      pg.draw.rect(screen,GREEN,fill\_rect)      pg.draw.rect(screen,WHITE,outline\_rect,2)  def draw\_lives(surf,x,y,lives,img):      for i in range(lives):          img\_rect = img.get\_rect()          img\_rect.x = x + 30\*i          img\_rect.y = y          surf.blit(img,img\_rect)  # 创建敌机的函数  def new\_enemy():      enemy = Enemy()      all\_sprites.add(enemy)      enemies.add(enemy)  def bullet\_hit\_enemy():      """我方子弹打中敌人的函数"""      # 先进行我方子弹和敌机的碰撞检测      global score      hits = pg.sprite.groupcollide(enemies,bullets,True,True)      for hit in hits:          score += 50-hit.radius          pg.mixer.Sound(sound\_path+"exp.wav").play()          #创建一个爆炸对象需要调用Explosion类          expl = Explosion(hit.rect.center,'lg')          # 将爆炸对象添加到所有精灵组          all\_sprites.add(expl)          # 每消灭一个敌机，又会创建一个敌机          new\_enemy() |

## 08-dad-son-planewar.py

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| # 第8个版本，敌机攻击  import sys  from constants import \*  import menu  from plane import \*  from funcs import \*  screen = pg.display.set\_mode(SIZE)  pg.display.set\_caption("飞机大战")  clock = pg.time.Clock()  def main():      # 1.显示启动画面      menu.menu\_display(screen) # 调用menu模块的显示菜单方法      # 2.精灵组可以直接使用constants模块里面的all\_sprites和bullets      # 3.创建玩家飞机      player1 = Plane(player\_img1,pg.K\_LEFT,pg.K\_RIGHT,pg.K\_UP,pg.K\_DOWN)      player2 = Plane(player\_img2,pg.K\_a,pg.K\_d,pg.K\_w,pg.K\_s)      # 4.将他们添加到精灵组,这是必须的，因为只有精灵组才有绘制方法      all\_sprites.add(player1)      all\_sprites.add(player2)      # 创建敌机      for i in range(4):          new\_enemy() # 这个方法可以创建敌机并且添加到all\_sprites和enemies精灵组里面      # 调用精灵组的更新方法      all\_sprites.update()      global height      running = True      while running: # 游戏主循环            clock.tick(FPS)          for event in pg.event.get():              if event.type == pg.QUIT:                  running = False          # 背景图片向下滚动          screen.blit(bg,(0,height))          height += 2          if height > -168:              height = -936          all\_sprites.update()       # 调用精灵组的更新方法          all\_sprites.draw(screen)   # 绘制精灵          draw\_screen\_text(screen,player1,player2) # 绘制血条和飞机架数          bullet\_hit\_enemy() # 子弹打中敌人的碰撞检测          pg.display.update()        pg.quit()      sys.exit()  if \_\_name\_\_ == '\_\_main\_\_':      main() |