

## Component C. Personalized Project Reference.

### Procedure:

i.

```

51 def onStep():
52     global bulletCount, score, direction, scoreQuips
53     arrowcrosshair.centerX = player.centerX
54
55     for bullet in bullets:
56         bullet.centerY -= 15
57
58     bullets[:] = [b for b in bullets if b.centerY > -10]
59
60     for bullet in bullets:
61         for shape in shapes:
62             if bullet.hitsShape(shape):
63                 bullets.remove(bullet)
64                 bullet.visible = False
65
66                 shape.direction = random.choice([-1, 1])
67                 if shape.direction == 1:
68                     shape.centerX = -20
69                 else:
70                     shape.centerX = 420
71
72                 shape.centerY = random.randint(30, 170)
73                 shape.speed = random.randint(3, 6)
74
75                 score += 100
76                 scoreLabel.value = score
77
78             if bullet.hitsShape(endline):
79                 bullet.centerX = 1000
80                 if score >= 1:
81                     score -= 50
82
83     for shape in shapes:
84         shape.centerX += shape.speed * shape.direction
85         if shape.centerX > 420 or shape.centerX < -20:
86             shape.direction = random.choice([-1, 1])
87             if shape.direction == 1:
88                 shape.centerX = -20
89             else:
90                 shape.centerX = 420
91
92         shape.centerY = random.randint(30, 170)
93         shape.speed = random.randint(3, 6)
94     pass

```

ii.

```

51 def onStep():

```

## List:

i.

```
40 bullets = []
41
42 def onKeyPress(keys):
43     global bulletCount
44     if 'space' in keys:
45         if bulletCount > 0:
46             bullets.append(Line(player.centerX, player.centerY-10, player.centerX, player.centerY - 60, fill='white', z=1))
47             bulletCount -= 1
48             bulletLabel.value = bulletCount
49         pass
50
```

ii.

```
55 for bullet in bullets:
56     bullet.centerY -= 15
57
58 bullets[:] = [b for b in bullets if b.centerY > -10]
```