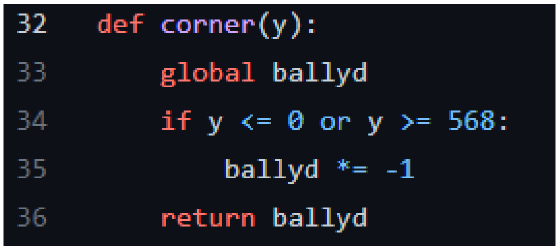
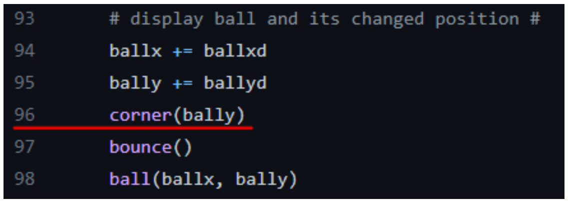
Coding documentation

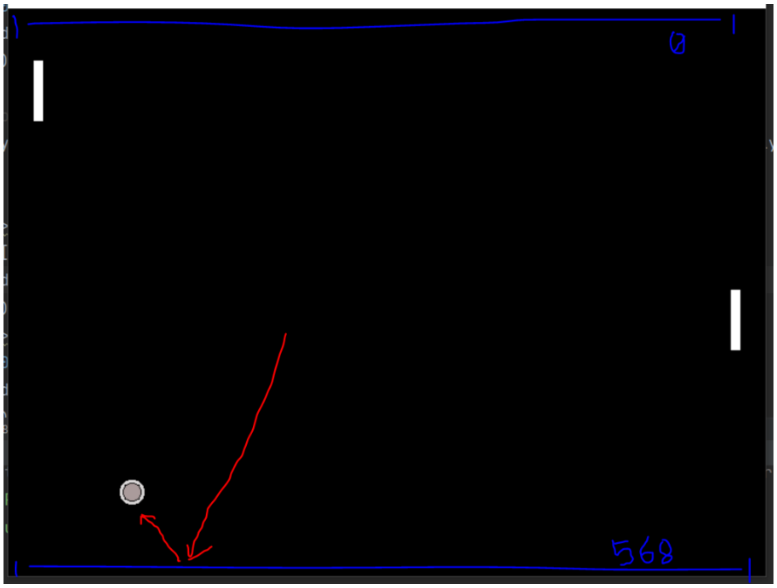
- day 1



```python
def corner(y):
    global ballyd
    if y <= 0 or y >= 568:
        ballyd *= -1
    return ballyd
```

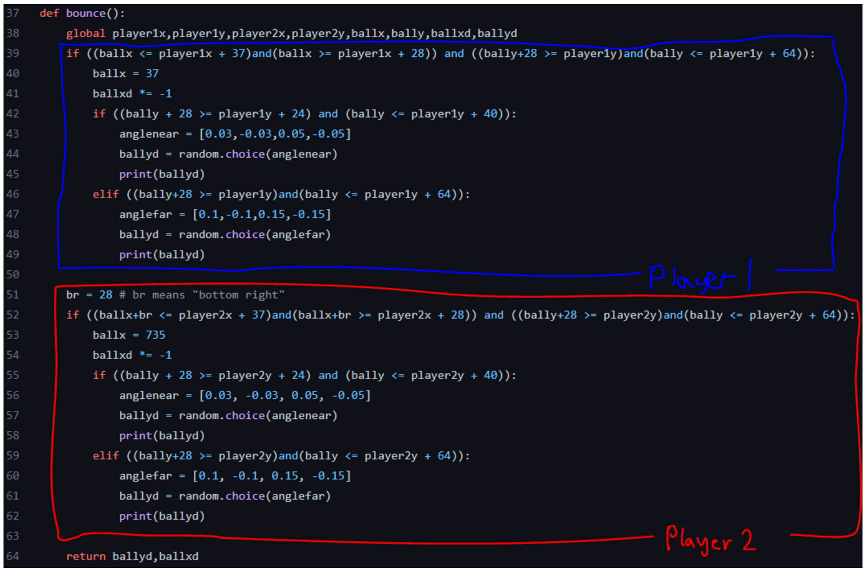


```python
    # display ball and its changed position #
    ballx += ballxd
    bally += ballyd
    corner(bally)
    bounce()
    ball(ballx, bally)
```



(Figure 1)

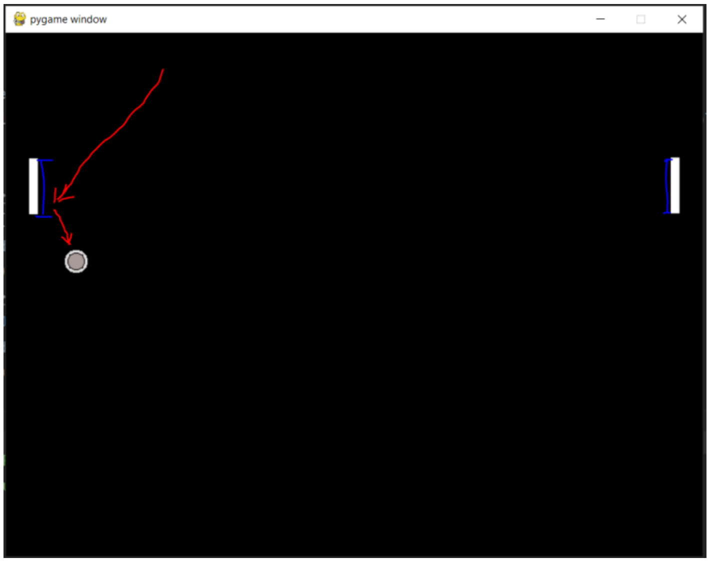
- The function “corner” is used to bounce ball between corners.

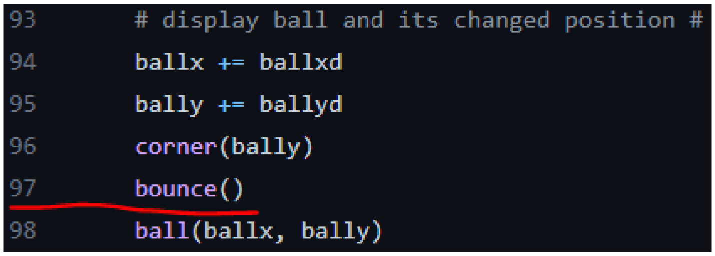


```python
def bounce():
    global player1x,player1y,player2x,player2y,ballx,bally,ballxd,ballyd
    if ((ballx <= player1x + 37)and(ballx >= player1x + 28)) and ((bally+28 >= player1y)and(bally <= player1y + 64)):
        ballx = 37
        ballxd *= -1
        if ((bally + 28 >= player1y + 24) and (bally <= player1y + 40)):
            anglenear = [0.03,-0.03,0.05,-0.05]
            ballyd = random.choice(anglenear)
            print(ballyd)
        elif ((bally+28 >= player1y)and(bally <= player1y + 64)):
            anglefar = [0.1,-0.1,0.15,-0.15]
            ballyd = random.choice(anglefar)
            print(ballyd)

    br = 28 # br means "bottom right"
    if ((ballx+br <= player2x + 37)and(ballx+br >= player2x + 28)) and ((bally+28 >= player2y)and(bally <= player2y + 64)):
        ballx = 735
        ballxd *= -1
        if ((bally + 28 >= player2y + 24) and (bally <= player2y + 40)):
            anglenear = [0.03, -0.03, 0.05, -0.05]
            ballyd = random.choice(anglenear)
            print(ballyd)
        elif ((bally+28 >= player2y)and(bally <= player2y + 64)):
            anglefar = [0.1, -0.1, 0.15, -0.15]
            ballyd = random.choice(anglefar)
            print(ballyd)

    return ballyd,ballxd
```

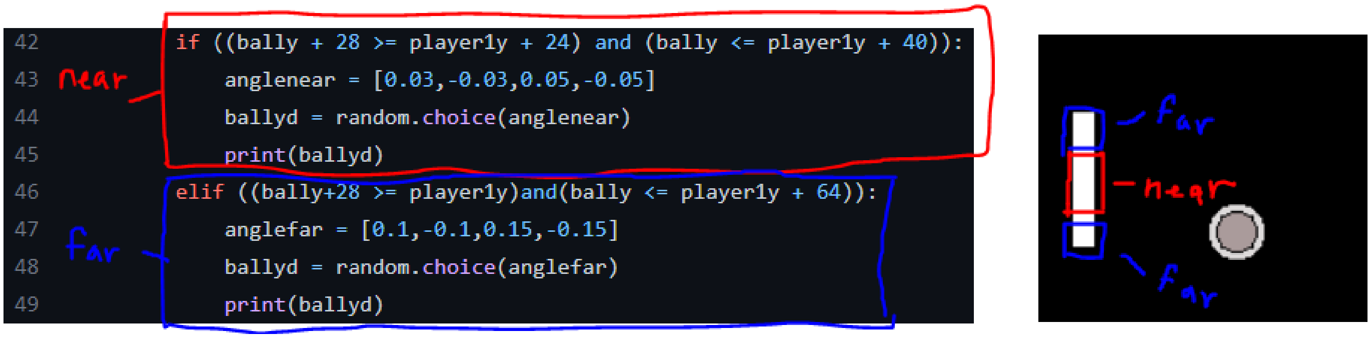




```python
    # display ball and its changed position #
    ballx += ballxd
    bally += ballyd
    corner(bally)
    bounce()
    ball(ballx, bally)
```

(Figure 2)

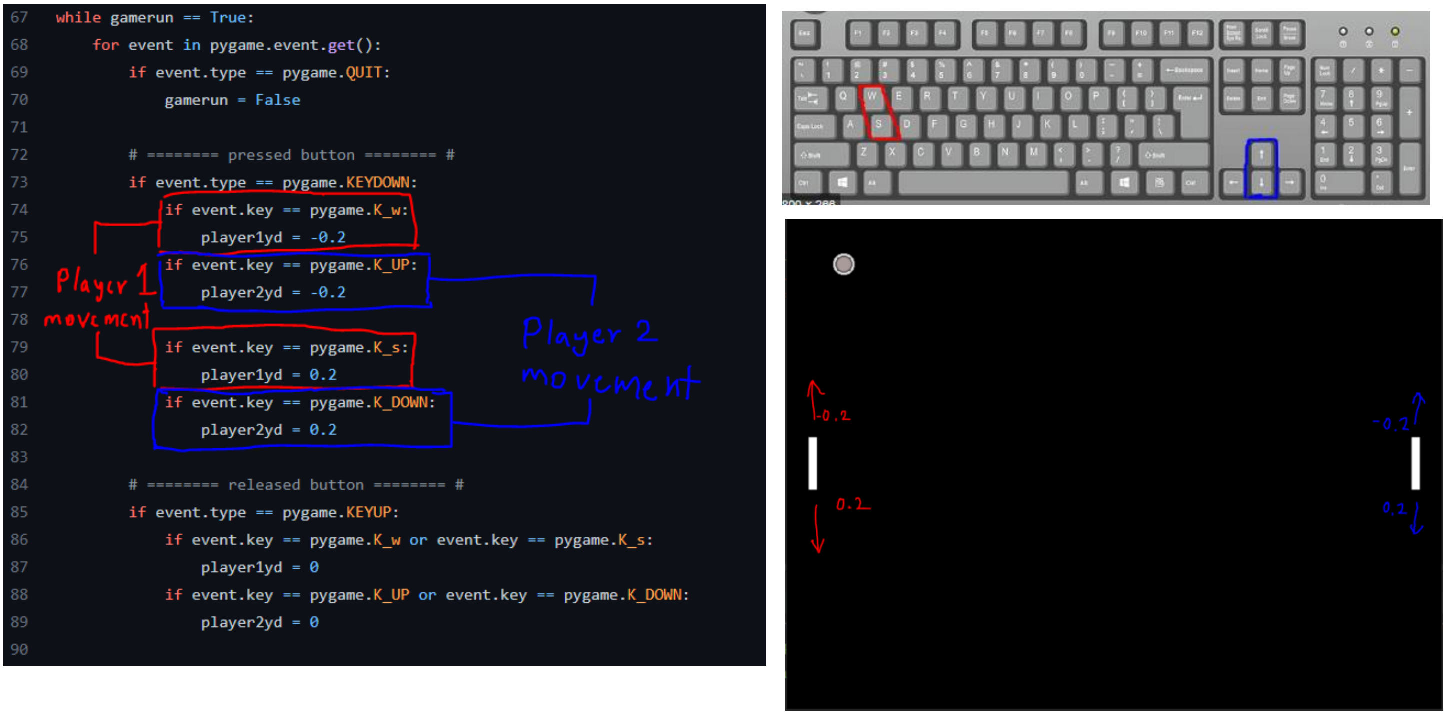
- The function “bounce” is used to bounce ball from both players.



```
if ((bally + 28 >= player1y + 24) and (bally <= player1y + 40)):
    anglenear = [0.03,-0.03,0.05,-0.05]
    ballyd = random.choice(anglenear)
    print(ballyd)
elif ((bally+28 >= player1y)and(bally <= player1y + 64)):
    anglefar = [0.1,-0.1,0.15,-0.15]
    ballyd = random.choice(anglefar)
    print(ballyd)
```

(Figure 3)

- The if and elif conditions inside the "bounce" function will change the ball movement as it hits the player's paddle.
- The "near" part of paddle will give the ball y direction to either 0.03, -0.03, 0.05 and -0.05 randomly
- The "far" part of paddle will give the ball y direction to either 0.1, -0.1, 0.15 and -0.15 randomly



```
while gamerun == True:
    for event in pygame.event.get():
        if event.type == pygame.QUIT:
            gamerun = False

        # ======== pressed button ======== #
        if event.type == pygame.KEYDOWN:
            if event.key == pygame.K_w:
                player1yd = -0.2
            if event.key == pygame.K_UP:
                player2yd = -0.2

            if event.key == pygame.K_s:
                player1yd = 0.2
            if event.key == pygame.K_DOWN:
                player2yd = 0.2

        # ======== released button ======== #
        if event.type == pygame.KEYUP:
            if event.key == pygame.K_w or event.key == pygame.K_s:
                player1yd = 0
            if event.key == pygame.K_UP or event.key == pygame.K_DOWN:
                player2yd = 0
```

(Figure 4)

- The keys "W", "S", "Up arrow" and "Down arrow" is assigned to control the player.

# that's all of the important updates in day 1 :) #