University of Surrey Widening Participation and Outreach Coding Hub

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Bux fixing!

Today we will start with fixing some old bugs in our code.

Bug 1: The game does not close properly

The game does not close when you click on the close button. To fix it, in your code, find every instance of:

```
sys.exit()
```

and ABOVE IT, add:

```
pygame.display.quit()
```

Check if it works!

Bug 2: Where is the Paddle?

If we move the Paddle far right it will finally disappear from the screen. We need to stop it by checking if the position of the Paddle is in the Screen.

Our Paddle is an object defined in the code in the following way:

```
class Paddle:
    def __init__(self, paddleWidth, paddleHeight, paddleSpeed, paddleColour):
        self.width = paddleWidth
        self.height = paddleHeight
        self.colour = paddleColour
        self.speed = paddleSpeed
        self.centreX = 0
        self.centreY = 0
```

To determine its position on the X axis on the screen we need two parameters:

- width

- centreX

Watch out! centreX is not actually the centre of the Paddle but its left corner! If you don't like it that way you can always change the names of the variables. You can understand better the parameters of the Paddle by looking at this figure:
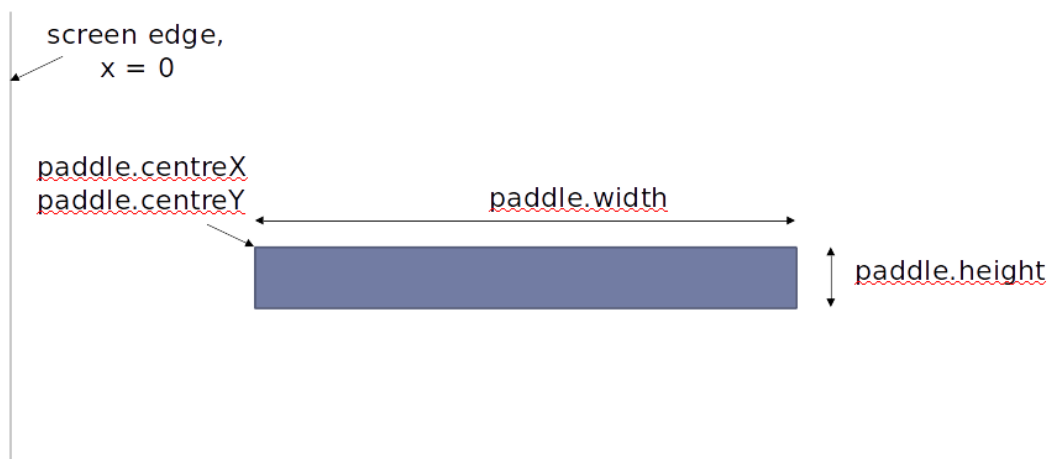

Figure 1: The dimensions of the Paddle

We are missing something to make our code work. Every time we move the Paddle we have to update its position in the object. To do that, type this line JUST AFTER moving the Paddle.

```
paddle.centreX += paddleDirection;
```

Now we are ready to block the Paddle from coming out of the screen. Just before moving the Paddle we can check if the position that we want to move it to is still on the screen. If it is not, we should stop the Paddle.

Try to think what this code should look like:

```
#Limit the Paddle movement to stay within the screen (i.e. detect
    collisions)
```

```
2    if (?): # code to check if the left edge of the Paddle is still on the
     screen
3    ? # code to stop the Paddle, undo its movement and update its position
4
5    elif (?): # code to check if the right edge of the Paddle is still on
     the screen
6    ? # code to stop the Paddle, undo its movement and update its position
```

Good luck!!!