

Terminator Cat



We're going to make a cat that shoots lasers out of its eyes when you press the spacebar.

1. Start a new sketch with `setup()` and `draw()` methods.
2. Set the size of your sketch in the `setup()` method.
`size(width, height);`
3. Add the following code to the very top of your sketch:
`PImage catPic;`
4. Find an image of a cat on google. Find one with BIG eyes.
 - Right click on the image and choose "Save Image As"
 - Name the image "cat"
 - Save the image to your desktop
5. Drag the image you saved from your desktop and drop it onto your sketch. Load it like this in the **setup** method:

```
catPic = loadImage("cat.jpg");  
catPic.resize(width, height); // to match your size  
background(catPic);
```

6. Add the following code to your **draw** method to find the location of your cat's eyes:

```
if(mousePressed) {  
    println("Mouse's x-position: " + mouseX + "\n" +  
        "Mouse's y-position: " + mouseY + "\n");  
}
```

(continue)

7. Now when you run your sketch and click on the cat's eye, the position of the eye will appear at the bottom of your processing window.

8. Place an ellipse over one of the cat's eyes in the `draw()` method using the x-position and y-position that you just found in the previous step.

```
ellipse(x, y, width, height);
```

9. Create variables for the x and y location of the ellipse at the top of your sketch, and set them equal to the values you found in step 6. Replace the numbers for `x` and `y` in your ellipse command with these variables. Completing this step should not change the look of your sketch.

10. Give the ellipse a color with the fill command (this will be the color of the laser).

```
fill(int red,int green,int blue);
```

11. Add a `keyPressed()` method outside of the draw method and increase the `x` and/or `y` variables inside it.

```
void keyPressed() {  
    x++;  
    y++;  
}
```

This code will move the ellipse diagonally to the right. Choose the direction of the laser beam depending on the direction your cat is facing. Remember you could do `x--` and `y--` instead.

12. Adding `noStroke()` on the line before you draw your ellipse will make it look more like a laser beam.

13. Accelerate the movement of the ellipse.

a. Create a new variable called `acceleration` at the very top of your sketch and set it equal to 5 (directly below your `x` and `y` variables).

b. Instead of adding one to `x` and `y`, use `acceleration` to increase their speed each time a key is pressed. Change the code you have inside of

`if(keyPressed){}` to something like:

```
y+=2*acceleration;  
x+=2*acceleration;
```

14. Make the cat shoot lasers from both eyes. Use an offset so that you don't need to make a second set of coordinates.

```
e.g. ellipse(x+220, y, 60, 50);
```

(continue)

15. Set the laser back to the beginning when it goes off the screen.
 - a. Write an `if` statement to check if your x-position variable is greater than (`>`) the built-in variable `width`. The variable `width` holds the width of your sketch.
 - b. If the laser is off the screen:
 - reset the cat image as the background.
 - set `x` and `y` back to their original values.
 - set `acceleration` back to 1.