

Project 78

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Coding School

The location is correct

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Built on Code Studio ↗

- ❖ Let's design an app to create an image using convex lens.
- ❖ The required images for this have been provided in the library.
- ❖ When creating a sprite to add the image of a lens, let's use code blocks as follows.

```
var lens = createSprite(380, 200);
lens.setAnimation("lens.png_1");
lens.scale = 0.3;
```

- ❖ Create the sprite as lens and give its x and y position as 380 and 200.

Use the "set animation" block to set the animation related to the sprite. Select the image "lens.png_1" for that.

Give the scale of the sprite as 0.3.

- ❖ Use the blocks as above to make the rest of the image needed for this.

Create the sprite as line and give its x and y position as 200 and 200. To set the animation related to the sprite, use the "set animation" block and select the image "line.png_1" for it. Give the scale of the sprite as 0.3.

Create the sprite as c and give its x and y position as 197 and 230. Use the "set animation" block to set the animation related to the sprite. For that, select the image "C.png_1". Give the scale of the sprite as 0.4.

Create the sprite as "2fr" and give its x and y position as 20 and 230. Use the "set animation" block to set the animation related to the sprite. For that, select the image "2f.png_1". Give the scale of the sprite as 0.4.

Create the sprite as "fr" and give its x and y position as 105 and 230. Use the "set animation" block to set the animation related to the sprite. For that, select the image "f.png_1". Give the scale of the sprite as 0.4.

Create the sprite as "fl" and give its x and y position as 290 and 230. Use the "set animation" block to set the animation for the sprite. For that, select the image "f.png_1g". Give the scale as 0.4.

- ❖ Add the sprites required for the second stage as follows.

```
var lens2 = createSprite(200, 230) = ;  
lens2.setAnimation(▼"lens.png_1");  
lens2.scale = 0.3;  
var line2 = createSprite(200, 230) = ;  
line2.setAnimation(▼"line.png_1");  
line2.scale = 0.3;  
var c2 = createSprite(150, 310) = ;  
c2.setAnimation(▼"c.png_1");  
c2.scale = 0.4;  
var r2r = createSprite(20, 310) = ;  
r2r.setAnimation(▼"2r.png_1");  
r2r.scale = 0.4;  
var r2l = createSprite(180, 310) = ;  
r2l.setAnimation(▼"2r.png_1");  
r2l.scale = 0.4;  
var fr2 = createSprite(105, 310) = ;  
fr2.setAnimation(▼"f.png_1");  
fr2.scale = 0.4;  
var fl2 = createSprite(290, 310) = ;  
fl2.setAnimation(▼"f.png_1");  
fl2.scale = 0.4;  
var button = createSprite(350, 330) = ;  
button.setAnimation(▼"button.png");  
button.scale = 0.2;
```

```

var candle = createSprite(100, 100, 100);
candle.setAnimation("candle.png");
candle.scale = 0.5;
var ray = createSprite(100, 100, 100);
ray.setAnimation("ray.png");
ray.scale = 0.5;
var normal = createSprite(100, 100, 100);
normal.setAnimation("picture1.png");
normal.scale = 0.5;
var rays = createSprite(100, 100, 100);
rays.setAnimation("picture1_rays.png");
rays.scale = 0.5;
var rays2 = createSprite(100, 100, 100);
rays2.setAnimation("picture1_rays_1234567890.png");
rays2.scale = 0.5;
var rays3 = createSprite(100, 100, 100);
rays3.setAnimation("line_orange.png");
rays3.scale = 0.5;
var rays4 = createSprite(100, 100, 100);
rays4.setAnimation("222.png");
rays4.scale = 0.5;
var candle2 = createSprite(100, 100, 100);
candle2.setAnimation("black.png");
candle2.scale = 0.5;

```

Apply blocks as follows to make the sprites used for the second stage invisible.

```

lens2.visible = 0;
line2.visible = 0;
c2.visible = 0;
fr2.visible = 0;
fl2.visible = 0;
f2r2.visible = 0;
f2l2.visible = 0;
button.visible = 0;
candle.visible = 0;
rays.visible = 0;
rays2.visible = 0;
normal.visible = 0;
rays3.visible = 0;
rays2_d.visible = 0;
rays3_d.visible = 0;
candle_2.visible = 0;

```

- ❖ Create a variable as follows.

```

var display = "";

```

- ❖ Then put the following blocks inside the "function draw" block..

```

function draw() {
  background("blue");
  lens.velocityX = -1;
}

```

- ❖ If the x value of the lens is less than 390 and more than 206, it should be written as "the location is wrong". Set the speed of the lens to -1.

```
if ( lens.x < 390 && lens.x > 206 ) {  
  display = "The location is wrong";  
  lens.velocityX = -1;  
}
```

- ❖ When the x value of the lens is 205, "the location is correct" should be recorded. The velocity of the lens is 0. The button sprite should be visible. Set the necessary blocks as follows.

```
if ( lens.x == 205 ) {  
  lens.velocityX = 0;  
  display = "The location is correct";  
  button.visible = 1;  
}
```

- ❖ When the mouse is moved over the sprite named as button, all sprites of the first stage disappear and "lens2 " "line2" "C 2" "fr2" "fl2 " "f2r2" "f2l2" "button", "candle " "normal" block as follows to make all sprites named "

```
if (mousePressedOver(button))
{
  icon.destroy();
  @.destroy();
  r1.destroy();
  r2.destroy();
  r3.destroy();
  r4.destroy();
  r5.destroy();
  r6.destroy();
  line.destroy();
  level.visible = 0;
  line2.visible = 0;
  r7.visible = 0;
  r8.visible = 0;
  r9.visible = 0;
  r10.visible = 0;
  r11.visible = 0;
  r12.visible = 0;
  button.visible = 0;
  candle.visible = 0;
  normal.visible = 0;
}
```

- ❖ Set the x direction velocity of the candle to -0.5.

```
candle.velocityX = -0.5;
```

- ❖ When the value of "candle" is 240, the velocity of "candle" is 0. "rays", "rays2", "rays3", "rays2_d", "rays3_d" and "candle_2" are visible. Apply blocks as follows.

```
if ( candle.x == 240 ) {  
  candle.velocityX = 0;  
  rays.visible = 1;  
  rays2.visible = 1;  
  rays3.visible = 1;  
  rays2_d.visible = 1;  
  rays3_d.visible = 1;  
  candle_2.visible = 1;  
}
```

- ❖ Use the following blocks to record the contents of the display variable.

```
fill(▼ "white");  
textSize(20);  
textFont("Arial");  
text(display, 100, 20);  
drawSprites();
```