PRO

# RETURN OF THE JEWEL THIEF

WhiteHat Jr
Live Online Coding for Kids

**INSTRUCTIONS:**

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**Goal of the Project:**

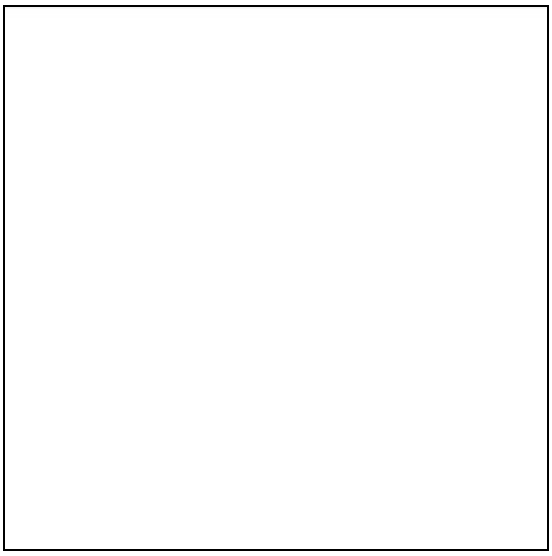
In Class 4, you built the complete Pong game. You added the logic for movements of the player paddle, the computer paddle and the ball.

*I*n this project, you will create a security system for a bank that is trying to protect a famous diamond from getting stolen.

**Story:**

Natwarlal is here to steal the famous Regent Diamond from the Bank of Jewels. You have been assigned the task to protect the diamond from getting stolen.

Design a security system using two red laser beams to protect the diamond from Natwarlal.




***This is just for your reference. We expect you to apply your own creativity in the project.**

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**Getting Started:**

1. Login to code.org
2. Click on **Create** and select **Game Lab** from the drop down menu.
3. Rename the project as **Project 2** and then click on **Save**.
4. Start making changes to this blank project.

**Specific Tasks to complete the Project:**

1. Create a square gray sprite on the bottom left corner, which is the thief.
2. Create a diamond using a shape on the top right corner.

```
shape(390,0,380,10,390,20,400,10);
```

3. Create two laser beams whose width is 200 and height is 5.
4. Design the positioning and movement of the laser beams so that it is impossible for Natwarlal to reach the diamond before touching one of these laser beams.
5. Create EdgeSprites.
6. Allow the thief to move using the 4 arrow keys.

```
if(keyIsDown(RIGHT_ARROW)){
  thief.velocityX = 2;
  thief.velocityY = 0;
}
if(keyIsDown(LEFT_ARROW)){
  thief.velocityX = -2;
  thief.velocityY = 0;
}
 if(keyIsDown(UP_ARROW)){
  thief.velocityX = 0;
  thief.velocityY = -2;
}
 if(keyIsDown(DOWN_ARROW)){
  thief.velocityX = 0;
  thief.velocityY = 2;
}
```

7. Add code for the following event:
   - When any of the laser beams touches the thief, all the movements in the game should stop.
   - Display a message “Thief is caught”.
8. Invite your friend to be Natwarlal and see if he/she can escape your security system.

9. Work on the loopholes to create a better security system.

***Interesting trivia:** Letting people find loopholes in your security system and fixing them is the key to better security.

10. Click on "**Run**" once to check if the code is working.

*Refer to the images given above for reference.

**Additional Challenge!**

- Try and add the AI concept that can also make the beams go diagonally.

**Submitting the Project:**

1. **SAVE** all the changes made to the project.
2. Click the "**SHARE**" button to generate a shareable link.
3. Copy this link and submit it in the Student Dashboard Projects panel against the correct class number.

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**Hints:**

1. The laser beam is just a sprite which moves up and down.

```
laser1 = createSprite(100,0,200,5);
laser1.shapeColor = "red";
laser1.velocityY = 2;
```

2. Use the **IsTouching()** method to determine if the laser has touched the thief or not.

```
if(laser1.isTouching(thief) || laser2.isTouching(thief)){
  stroke(0)
  fill(0)
  textSize(24);
  text("Thief is caught",120,200);
  laser1.setVelocity(0,0);
  laser2.setVelocity(0,0);
  thief.setVelocity(0,0);
}
```

**REMEMBER... Try your best, that's more important than being correct.**
After submitting your project your teacher will send you feedback on your work.

——————— **XXX** ——————— **XXX** ——————— **XXX** ——————— **XXX** ——————— **XXX** ———————