LOVELY PROFESSIONAL UNIVERSITY

JavaScript CA 1

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You are an adventurer lost in an ancient temple. Each room contains a puzzle you need to solve using JavaScript control structures. As you solve the challenges, you unlock new rooms that bring you closer to the treasure hidden at the heart of the temple.

Level 1: "The Locked Door" (Conditional Statements)

Challenge:
The first door is locked with a combination, and you need to find the correct key. You're given an array of keys and must check if a specific key (between 1 and 10) is in the list.

Task:
Write a JavaScript program to check if the secret key is in the array of keys. If found, display "The door opens!"; otherwise, display "Try again."

Level 2: "The Bridge" (Loops)

Challenge:
The explorer needs to cross a bridge that will collapse if they take an odd number of steps. The player must check whether the number of steps is even or odd.

Task:
Write a program that takes the number of steps (provided by the user) and checks if it's even or odd. If the number is even, print "The bridge is stable." If it's odd, print "The bridge collapses!"

Level 3: "The Final Gate" (Complex Decision-Making with Loops)

Challenge:
The final gate requires several conditions to be met. The adventurer must:

1. **Have at least 5 keys.**
2. **Have crossed an even number of steps.**
3. **Have correctly chosen the right door.**

If all these conditions are met, the gate opens, and the treasure is revealed.

Task:
Write a JavaScript program that uses a series of control structures to check whether all the conditions are true. If they are, print "The gate opens!" Otherwise, print "The gate remains closed."

Index.html [This is the HTML file]

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Temple Quest</title>
</head>
<body>
   <script src="templeQuest.js"></script>
</body>
</html>
```

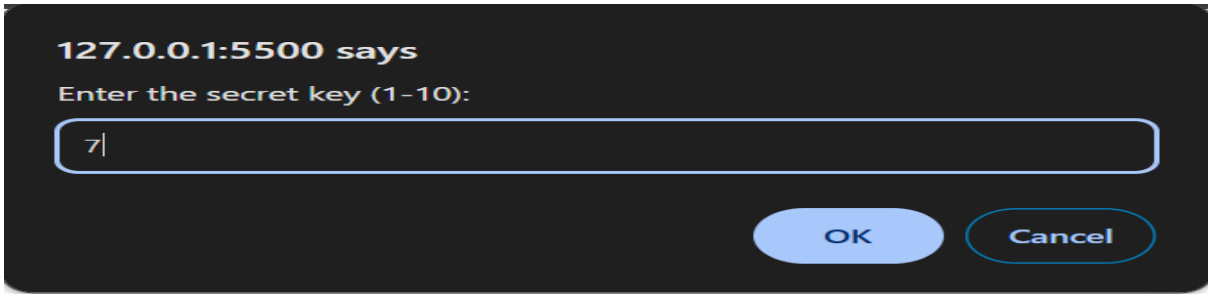
templeQuest.js [This is the JavaScript File]

```
// Level 1: The Locked Door
function checkKey() {
   let keys = [2, 4, 7, 9, 10];
   let secret = parseInt(prompt("Enter the secret key (1-10):"));
   if (keys.includes(secret)) {
      alert("The door opens!");
   } else {
      alert("Try again.");
   }
}

// Level 2: The Bridge
function checkBridge() {
   let steps;
   while (true) {
```

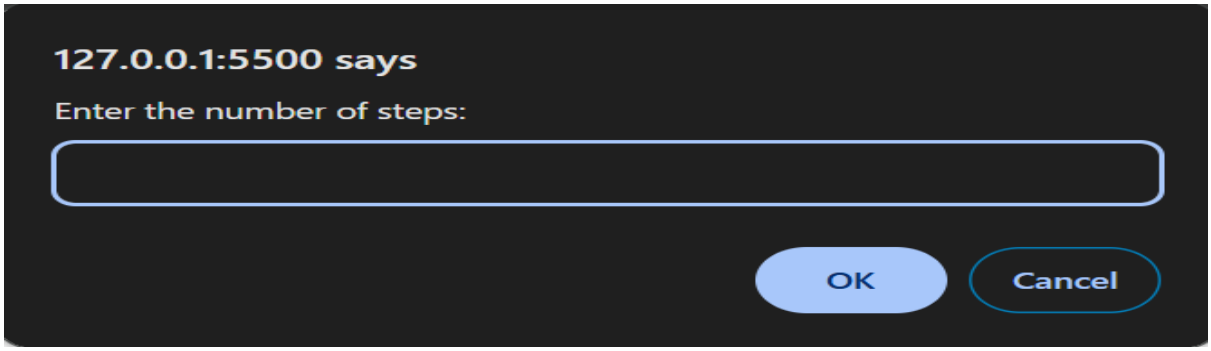
```
    steps = parseInt(prompt("Enter the number of steps:"));
    if (!isNaN(steps)) break;
  }
  alert(steps % 2 === 0 ? "The bridge is stable." : "The bridge collapses!");
}

// Level 3: The Final Gate
function checkFinalGate() {
  let keyCount, steps, door;
  while (true) {
    keyCount = parseInt(prompt("Enter the number of keys:"));
    if (keyCount >= 0) break;
  }
  while (true) {
    steps = parseInt(prompt("Enter the number of steps again:"));
    if (!isNaN(steps)) break;
  }
  while (true) {
    door = prompt("Choose a door (left or right):").toLowerCase();
    if (door === "left" || door === "right") break;
  }
  alert((keyCount >= 5 && steps % 2 === 0 && door === "right")
    ? "The gate opens!"
    : "The gate remains closed.");
}

checkKey();
checkBridge();
checkFinalGate();
```

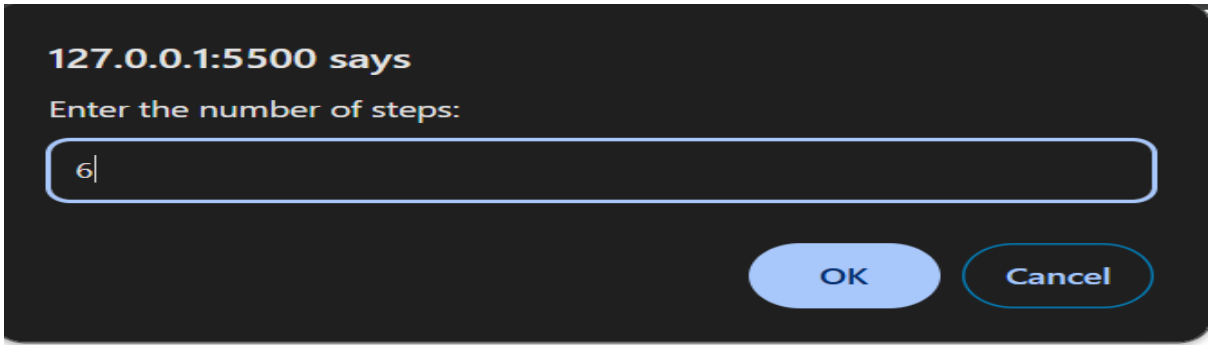
OUTPUTS

Level 1 Output



Level 2 Output





Level 3 Output