Overview

Programming Language Paradigms

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Bugs & Debugging

In-Class Problem

> "Debugging is twice as hard as writing the code in the first place. Therefore, if you write the code as cleverly as possible, you are, by definition, not smart enough to debug it."
>
> – Brian Kernighan and P.J. Plauger, The Elements of Programming Style

Questions

```
function promptDirection(question) {
    let result = prompt(question);
    if (result.toLowerCase() == "left") return "L";
    if (result.toLowerCase() == "right") return "R";
    throw new Error("Invalid direction: " + result);
}

function look() {
    if (promptDirection("Which way?") == "L")
        return "a house";
    else
        return "two angry bears";
}

try {
    console.log("You see", look());
} catch (error) {
    console.log("Something went wrong: " + error);
}
```

What is the console output of this program, if you type:

1. Left

```
// → You see "a house"
```

2. RIGHT

```
// → You see "two angry bears"
```

3. UP

```
// → Something went wrong: Error: Invalid direction: UP
```

4. List in order the statements executed by JavaScript for No. 1 above

In order for the interpreter to execute all of the code...

```
look()

promptDirection()

toLowerCase() == left

promptDirection() == "L"
```

gets called in order to return...

```
// → You see "a house"
```

5. List in order the statements executed by JavaScript for No. 2 above

In order for the interpreter to execute all of the code...

```
look()

promptDirection()

toLowerCase() == right

else {} / promptDirection() != "L"
```

gets called in order to return...

```
// → You see "two angry bears"
```

6. List in order the statements executed by JavaScript for No. 3 above

In order for the interpreter to execute all of the code...

```
look()

promptDirection()

Something went wrong: Error: Invalid direction: UP
```

gets called in order to return...

```
// → Something went wrong: Error: Invalid direction: UP
```