Sample Problems

The Analog Coding Workbook: JavaScript Edition

Try solving these problems without running code. Each problem type trains a different skill.

Write the Code — Problem 1

Write a complete, working function by hand.

1. FizzBuzz

Write a function fizzBuzz(n) that prints the numbers from 1 to n.

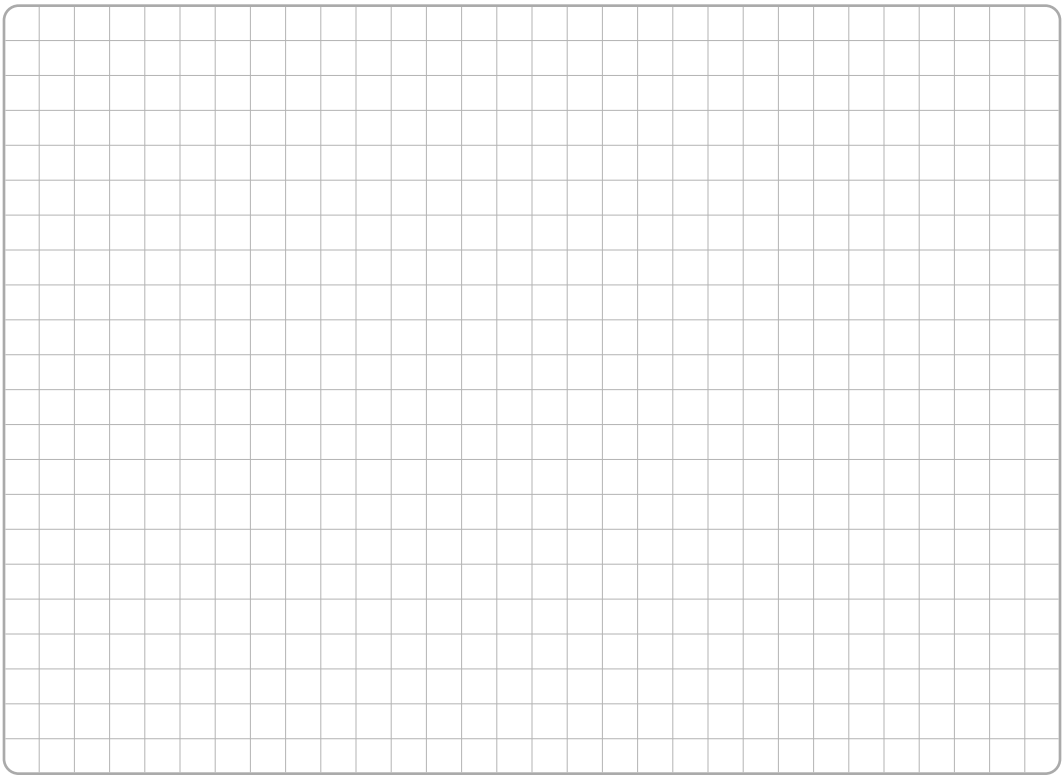
For multiples of 3, print "Fizz" instead of the number. For multiples of 5, print "Buzz" instead of the number. For numbers that are multiples of both 3 and 5, print "FizzBuzz".

Example for n = 5: 1 2 Fizz 4 Buzz

Example signature:

```
function fizzBuzz(n) {
  // your code here
}
```

Write your solution below



Write the Code — Problem 2

A more challenging problem.

2. Group Objects by Property

Write a function groupByRole(users) that takes an array of user objects and returns an object where each key is a role and each value is an array of users with that role.

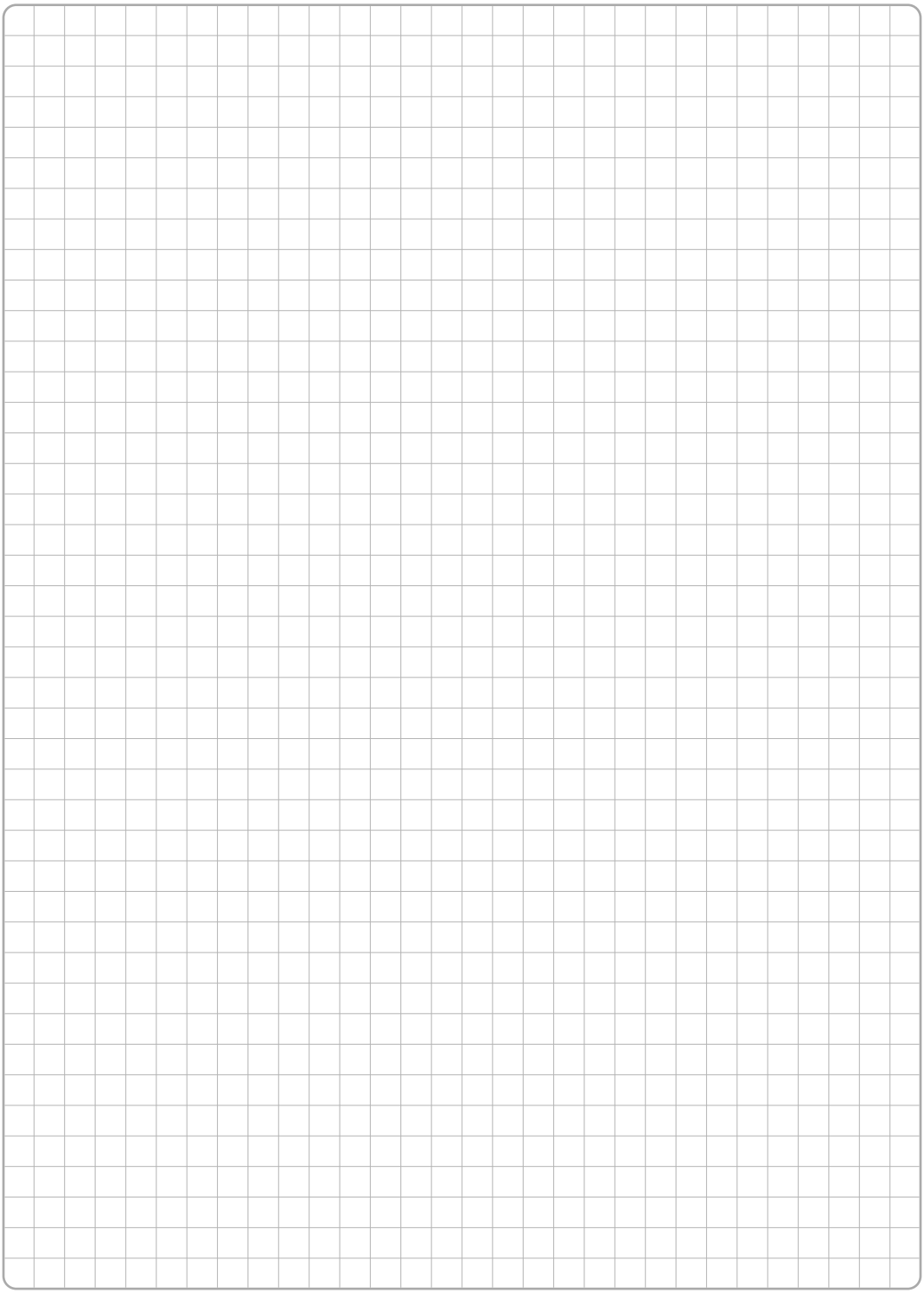
Example: groupByRole([{ name: “Alice”, role: “admin” }, { name: “Bob”, role: “user” }, { name: “Cara”, role: “admin” }]) returns { admin: [{ name: “Alice”, role: “admin” }, { name: “Cara”, role: “admin” }], user: [{ name: “Bob”, role: “user” }] }

Example signature:

```
function groupByRole(users) {
  // your code here
}
```

Write your solution below

2. Group Objects by Property (continued)



Trace the Program — Problem 3

Simulate execution step by step.

5. Score Filter

```
let scores = [4, 7, 2, 9, 3];
let passing = [];

for (let i = 0; i < scores.length; i++) {
  scores[i] += 1;

  if (scores[i] >= 5) {
    passing.push(scores[i]);
  }
}

console.log(passing);
```

Output:

Find the Bug — Problem 4

Identify and fix the bug.

4. Find Negative

```
function hasNegative(nums) {
  for (let i = 0; i < nums.length; i++) {
    if (nums[i] < 0) {
      return true;
    }

    return false;
  }
}
```

Explain the bug:

Write the fix: