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JS Challenge II

1. Inventory Tracker

```
let inventory = ["apple", "banana", "cherry", "date", "elderberry"];
let inventoryCount = [10, 15, 5, 20, 7];

for (let i = 0; i < inventory.length; i++) {
  console.log(`${inventory[i]}: ${inventoryCount[i]}`);
}
```

VARIABLE	VALUE
inventory	["apple", "banana", "cherry", "date", "elderberry"]
inventoryCount	[10, 15, 5, 20, 7]
i	0 → 1 → 2 → 3 → 4

OUTPUT:

apple: 10

banana: 15

cherry: 5

date: 20

elderberry: 7

2. Alphabetical Sorting

```
let words = ["zebra", "apple", "mango", "cherry", "banana"];

for (let i = 0; i < words.length; i++) {
  for (let j = i + 1; j < words.length; j++) {
    if (words[i] > words[j]) {
      let temp = words[i];
      words[i] = words[j];
      words[j] = temp;
    }
  }
}

console.log(words);
```

VARIABLE	VALUE
words	["zebra", "apple", "mango", "cherry", "banana"]
i	0 → 1 → 2 → 3 → 4
j	1 → 2 → 3 → 4
words (after swaps)	["apple", "zebra", "mango", "cherry", "banana"] ["apple", "banana", "zebra", "mango", "cherry"] ["apple", "banana", "cherry", "zebra", "mango"] ["apple", "banana", "cherry", "mango", "zebra"]

OUTPUT:

["apple", "banana", "cherry", "mango", "zebra"]

3. Unique Array Builder

```
let uniqueNumbers = [];

while (uniqueNumbers.length < 10) {
  let randomNumber = Math.floor(Math.random() * 20) + 1;

  // Check if the randomNumber already exists in the array
  let exists = false;
  for (let i = 0; i < uniqueNumbers.length; i++) {
    if (uniqueNumbers[i] === randomNumber) {
      exists = true;
      break;
    }
  }

  // If it doesn't exist, add it to the array
  if (!exists) {
    uniqueNumbers.push(randomNumber);
  }
}

console.log(uniqueNumbers);
```

VARIABLE	VALUE
uniqueNumbers	[] → [4] → [4, 11] → [4, 11, 7] → [4, 11, 7, 19] → [4, 11, 7, 19, 2] → [4, 11, 7, 19, 2, 14] → [4, 11, 7, 19, 2, 14, 6] → [4, 11, 7, 19, 2, 14, 6, 9] →

	[4, 11, 7, 19, 2, 14, 6, 9, 18] → [4, 11, 7, 19, 2, 14, 6, 9, 18, 1]
randomNumber	4 → 11 → 7 → 19 → 2 → 14 → 6 → 9 → 18 → 1
exists	false → false → false → false → false → false → false → false → false → false

OUTPUT:

[4, 11, 7, 19, 2, 14, 6, 9, 18, 1]

4. Triangle Checker

Given the following code, determine if the sides form a valid triangle:

```
let sideA = 7;
let sideB = 10;
let sideC = 5;

if (sideA + sideB > sideC && sideB + sideC > sideA && sideA + sideC > sideB) {
  console.log(`The sides ${sideA}, ${sideB}, and ${sideC} form a valid triangle.`);
} else {
  console.log(`The sides ${sideA}, ${sideB}, and ${sideC} do not form a valid triangle.`);
}
```

VARIABLE	VALUE
sideA	7
sideB	10
sideC	5

OUTPUT:

The sides 7, 10, and 5 form a valid triangle.