


### Bug 1: Loop Output Issue


```
for (let i = 0; i <= customers.length; i++) {  
  console.log(customers[i].name);  
}
```

 **Hint:** Array index & loop condition

```
for (let i = 0; i < customers.length; i++) {  
  console.log(customers[i].name);  
}
```

### Bug 2: filter() Not Working


```
const activeCustomers = customers.filter((c) => {  
  c.active === true;  
});
```

 **Hint:** Return value

```
const activeCustomers = customers.filter((c) => c.active === true);
```

### Bug 3: Premium Increase Logic Broken


```
const updatedPremiums = customers.map((c) => {  
  if (c.age >= 50) {  
    c.premium = c.premium * 1.1;  
  }  
});
```

 **Hint:** map return & immutability

```
const updatedPremiums = customers.map((c) => {  
  if (c.age >= 50) return { ...c, premium: c.premium * 1.1 };  
  return c;  
});
```

### Bug 4: Wrong Total Premium Calculation

```
const totalPremium = customers.reduce((total, c) => {  
  total + c.premium;  
}, 0);
```

 **Hint:** reduce return

```
const totalPremium = customers.reduce((total, c) => {  
  return total + c.premium;  
}, 0);
```

#### 🐛 Bug 5: Template Literal Not Printing

```
console.log("Customer ${customers[0].name} has policy  
${customers[0].policy}");
```

🔍 Hint: Quotes type

```
console.log(`Customer ${customers[0].name} has policy ${customers[0].policy}`);
```

#### 🐛 Bug 6: Policy Count Incorrect

```
const policyCount = customers.reduce((count, c) => {  
  count.policy = (count.policy || 0) + 1;  
  return count;  
}, {});
```

🔍 Hint: Dynamic object key

```
const policyCount = customers.reduce((count, c) => {  
  count[c.policy] = (count[c.policy] || 0) + 1;  
  return count;  
}, {});
```

#### 🐛 Bug 7: Risk Level Always Undefined

```
const customersWithRisk = customers.map((c) => {  
  let riskLevel;  
  if (c.age < 35) riskLevel = "Low";  
  if (c.age <= 50) riskLevel = "Medium";  
  else riskLevel = "High";  
  return { ...c, riskLevel };  
});
```

🔍 Hint: Condition chaining

```
const customersWithRisk = customers.map((c) => {  
  let riskLevel;  
  if (c.age < 35) riskLevel = "Low";  
  else if (c.age <= 50) riskLevel = "Medium";  
  else riskLevel = "High";  
  return { ...c, riskLevel };  
});
```

🐛 Bug 8: Active vs Inactive Count Wrong

```
let active = 0,
    inactive = 0;

for (const c in customers) {
  if (c.active) active++;
  else inactive++;
}
```

🔍 Hint: for...in vs for...of

```
let active = 0, inactive = 0;
```

```
for (const c of customers) {
  if (c.active) active++;
  else inactive++;
}
```

🐛 Bug 9: Arrow Function Syntax Error

```
const getLifeCustomers = () =>
  customers.filter((c) => c.policy === "Life").map((c) =>
    c.name);
```

🔍 Hint: Arrow function return

```
const getLifeCustomers = () =>
  customers
    .filter((c) => c.policy === "Life")
    .map((c) => c.name);
```

🐛 Bug 10: Sorting Mutates Original Array

```
const sortedCustomers = customers.sort((a, b) => b.premium -
  a.premium);
```

🔍 Hint: Array mutation

```
const sortedCustomers = [...customers].sort((a, b) => b.premium - a.premium);
```