



Why Completeness Matters

Missing Cases == Bug















# Why Completeness Matters

## Missing Cases == Bugs

| User Role | Resource Type | Action | Owner? | Result  |
|-----------|---------------|--------|--------|---------|
| Admin     | *             | *      | *      | ✓ Allow |
| User      | Public        | Read   | *      | ✓ Allow |
| Guest     | Public        | Read   | *      | ✓ Allow |

- Completeness = Every possible input combination has a defined output
- **Missing Cases:**
  - What if User tries to Write to Public resource?
  - What if User tries to access Shared resource?
  - What if Guest tries to Write?
- **Without completeness:** Runtime error, undefined behaviour, or worse security vulnerability!

# Why Disjointness Matters

## Non-deterministic == Bugs

| User Role | Resource Type | Action | Owner? | Result  |
|-----------|---------------|--------|--------|---------|
| Admin     | *             | *      | *      | ✓ Allow |
| *         | Public        | Write  | *      | ✗ Deny  |
| User      | *             | Read   | Yes    | ✓ Allow |