# What Homework 1, Problem 3 Asks

# Problem Statement

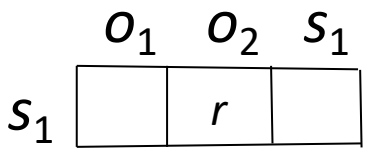
- Justify the statement: "Suppose two subjects $s_1$ and $s_2$ are created and the rights in $A[s_1, o_1]$ and $A[s_2, o_2]$ are tested. The same test for $A[s_1, o_1]$ and $A[s_1, o_2] = A[s_1, o_2] \cup A[s_2, o_2]$ will produce the same result."
- Would it be true if one could test for the absence of rights as well as for the presence of rights?

# 2 create subjects

| | $o_1$ | $o_2$ | $s_1$ | $s_2$ |
|---|---|---|---|---|
| $s_1$ | | | | |
| $s_2$ | | *r* | | |

create subject $s_1$
create subject $s_2$
enter *r* into $A[s_2, o_2]$
if *r* in $A[s_2, o_2]$
then
. . .
[[IMPORTANT: these would be in commands]]

# 1 create subject




create subject $s_1$
enter $r$ into $A[s_1, o_2]$
if $r$ in $A[s_1, o_2]$
then
. . .
[[IMPORTANT: these would be in commands]]

Problem: prove the result of executing the two command sequences produces the same result

# Test for Absence of Rights

- Current access control matrix model allows conditional tests of the form `if` *`r`* `in` *`A`*`[`*`s`*`,`*`o`*`]` but ***not*** `if` *`r`* `not in` *`A`*`[`*`s`*`,`*`o`*`]`
- The problem asks, what if ***both*** are allowed? Would the two command sequences still produce the same results?