Example of Take-Grant Rule Applications
How can $y$ obtain $r$ rights over $a$?
z takes \((r \text{ to } a)\) from x
z grants (r to a) to y
So the Witness Is:

1. \( z \) takes (\( r \) to \( a \)) from \( x \)
2. \( z \) grants (\( r \) to \( a \)) to \( w \)
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

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

\[ [\text{IMPORTANT: these would be in commands}] \]
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 \( \text{if } r \text{ in } A[s,o] \text{ but not if } r \text{ not in } A[s,o] \)

• The problem asks, what if \textit{both} are allowed? Would the two command sequences still produce the same results?