(0) Give example relations with the following properties, if possible. Problem F is done for you.

Problem	**Reflexive**	**Transitive**	**Symmetric**
A	No	No	No
B	No	No	Yes
C	No	Yes	No
D	No	Yes	Yes
E	Yes	No	No
F	Yes	No	Yes
G	Yes	Yes	No
H	Yes	Yes	Yes

Solution to problem F.

F	**a**	**b**	**c**
a	T	T	T
b	T	T	F
c	T	F	T

This relation is symmetric since it is symmetric along the main diagonal. It is reflexive, since it true at all positions along the diagonal. It is not transitive since ${}_bR_a$ and ${}_aR_c$ but $\neg {}_bR_c$.

Solution to problem A.

A	**a**	**b**	**c**
a	F	F	T
b	T	F	F
c	F	T	F

This relation is not reflexive as $\neg {}_aR_a$ disproves reflexivity. This relation is not transitive as ${}_aR_c \wedge {}_cR_b$ but $\neg {}_aR_b$, disproving transitivity. This relation is not symmetric, as disproven by the conjunction ${}_aR_c \wedge \neg {}_cR_a$.