Inclass 11 - relations

1. Fill in the table on the right with True or False. Note that on an exam, you will be asked for justifications

|  |  |  |  |
| --- | --- | --- | --- |
| Reflexive | Symmetric | Transitive | Antisymmetric |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

a. R ⊆ Z+ × Z+ where aRb if a is even and b is even.

b. R ⊆ Z+ × Z+ where aRb if a+b is even

c. R ⊆ Z+ × Z+ where aRb if b = a2

(b equals a squared)

1. Let A = {1,2,3,4}, give an example of a relation on A that is
2. reflexive and symmetric but not transitive. You may give your example in the form   
   R = { (x,y),(y,w),(w,y), … } or draw a directed graph



1. reflexive and transitive but not symmetric. You may give your example in the form   
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3. Let A = {1,2,3,4}, draw a digraph for each of the relations described in question 1 assuming that they are now relations on A.

