

# Assignment on CSE 103 : Discrete Mathematics

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Discrete Mathematics and its Application by Kenneth Rosen  
chapter 1

Section 1.1, problem 18:

Determine whether each of this conditional statement is true or false:

1. If  $1 + 1 = 3$  then Unicorns exist
2. If  $1 + 1 = 3$  then dogs can fly
3. If  $1 + 1 = 2$  then dogs can fly
4. If  $2 + 2 = 4$  then  $1 + 2 = 3$

**Answer:**

1. We know that  $1 + 1 \neq 3$ . So, on a conditional statement  $p \rightarrow q$ , if  $p$  is false then the statement is true regardless of the truth value of  $q$ . So it is true.
2. We know that  $1 + 1 \neq 3$ . So, on a conditional statement  $p \rightarrow q$ , if  $p$  is false then the statement is true regardless of the truth value of  $q$ . So it is true.
3. We know that  $1 + 1 = 2$ . So  $p$  is true here. But the second statement isn't.  
So the statement isn't true
4. We know that  $2 + 2 = 4$  and  $1 + 2 = 3$ . So both are true.  
So the statement is true.