Assignment #1

Due 3 September 2010

1. Let $p$ and $q$ be statements. Show that $p \rightarrow q$ and $\neg p \lor q$ have the same truth tables.

2. Let $p$ and $q$ be statements. Produce the truth table for the compound statement

$((p \rightarrow q) \land p) \rightarrow q$. 
3. Prove the following theorem: An integer is odd if and only if it is the sum of two consecutive integers.

4. Prove the following theorem: Let $a$, $b$, and $c$ be integers. If $a|b$ and $a|c$, then $a|(b + c)$. 