Worksheet 2. Induction. Divisibility

1. Prove that the number of binary strings of length n that do not contain two consecutive 1 is u_{n+2}

2. In class we proved 6 div n $\Leftrightarrow$ (2 div n) $\wedge$ (3 div n);

   in hw 2 you have proved that 10 div n $\Leftrightarrow$ (2 div n) $\wedge$ (5 div n) .

   Question : is it true that ab div n $\Leftrightarrow$ (a div n) $\wedge$ (b div n) ? If it is true try to prove it, if not explain why not.