The important issue is the logic you used to arrive at your answer.

1. Consider the set $A$ of all finitely long strings of 0’s and 1’s. Is $A$ finite, countably infinite, or uncountably infinite? Prove your claim.

2. Consider the set $B$ of all integer-valued functions defined on the set $\{0, 1\}$. Is $B$ finite, countably infinite, or uncountably infinite? Prove your claim.
3. Consider the set $C$ of all ordered pairs of reals of the form $(a, b)$ where $a \leq b$. Is $C$ finite, countably infinite, or uncountably infinite? Prove your claim.