Some set operations

We always assume there is some universal set U and all of the sets we mention (A, B, C, ...) are subsets of U.

Definition

Given A, B, we define:

- $A \cap B = \{x \in U : (x \in A) \wedge (x \in B)\}$.
- $A \cup B = \{x \in U : (x \in A) \vee (x \in B)\}$.
- $A^c = \{x \in U : x \notin A\}$.
- $A \setminus B = \{x \in U : (x \in A) \wedge (x \notin B)\}$.

Note that A^c depends on U!
We can also write $A^c = U \setminus A$.