Operations on Sets

The *union* of two sets A and B, denoted by $A \cup B$, is the set containing elements from A or B. The *intersection* of two sets A and B, denoted by $A \cap B$, is the set of elements which are in A and B.

Example 2.0.12.

$$A = \{1, 2, 4, 6\} \quad B = \{1, 3, 5, 6\}$$

$$A \cap B = \{1, 6\} \quad A \cup B = \{1, 2, 3, 4, 5, 6\}$$

Notation

Union of n Sets	Intersection of n Sets
$\bigcup_{i=1}^{n} A_i = A_1 \cup A_2 \cup \cdots \cup A_n$	$\bigcap_{i=1}^{n} A_i = A_1 \cap A_2 \cap \cdots \cap A_n$