$\bigcup_{i=1}^{n} A_i = A_1 \cup A_2 \cup \dots \cup A_n$ (occurrence of at least one)

$\bigcap_{i=1}^{n} A_i = A_1 \cap A_2 \cap \dots \cap A_n$

simultaneous occurrence of $A_1, A_2, \dots, A_n$

$A - B = A \cap B^c$

occurrence of A but not of B

$A \cap B = \phi \rightarrow$ mutually exclusive