

## Example to remember Cartesian Product:

Example: Let  $A = \{a, b, c\}$  and  $B = \{p, q\}$ .

Then  $A \times B = \{(a, p), (a, q), (b, p), (b, q), (c, p), (c, q)\}$

Also  $B \times A = \{(p, a), (p, b), (p, c), (q, a), (q, b), (q, c)\}$

## Results on Cartesian Product:

If  $A$  and  $B$  are non-empty sets and either  $A$  or  $B$  is an infinite set, then so is  $A \times B$ .

$A \times A \times A = \{(a, b, c) : a, b, c \in A\}$ . Here  $(a, b, c)$  is called an ordered triplet.