Chapter 2 Relations Ex 2.1 Q14

We have,

$A = \{1, 2\}$

$\therefore \quad A \times A = \{1, 2\} \times \{1, 2\}$

$= \{(1, 1),\ (1, 2),\ (2, 1),\ (2, 2)\}$

$\therefore \quad A \times A \times A = \{1, 2\} \times \{(1, 1),\ (1, 2),\ (2, 1),\ (2, 2)\}$

$= \{(1, 1, 1),\ (1, 1, 2),\ (1, 2, 1),\ (1, 2, 2),\ (2, 1, 1),\ (2, 1, 2),\ (2, 2, 1),\ (2, 2, 2)\}$

Chapter 2 Relations Ex 2.1 Q15

We have,

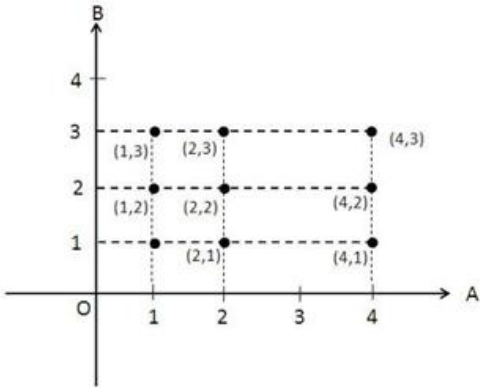
$A = \{1, 2, 4\}$ and $B = \{1, 2, 3\}$

$\therefore \quad A \times B = \{1, 2, 4\} \times \{1, 2, 3\}$

$= \{(1, 1),\ (1, 2),\ (1, 3),\ (2, 1),\ (2, 2),\ (2, 3),\ (4, 1),\ (4, 2),\ (4, 3)\}$

Hence, we represent A on the horizontal line and B on vertical line.

Graphical representation of $A \times B$ is as shown below:



We have,

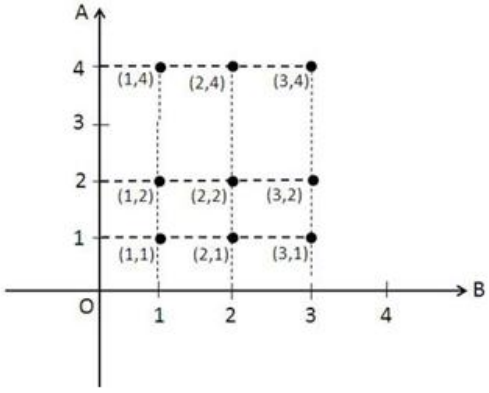
$A = \{1, 2, 4\}$ and $B = \{1, 2, 3\}$

$\therefore \quad B \times A = \{1, 2, 3\} \times \{1, 2, 4\}$

$= \{(1, 1),\ (1, 2),\ (1, 4),\ (2, 1),\ (2, 2),\ (2, 4),\ (3, 1),\ (3, 2),\ (3, 4)\}$

Hence, we represent B on the horizontal line and A on vertical line.

Graphical representation of $B \times A$ is as shown below:



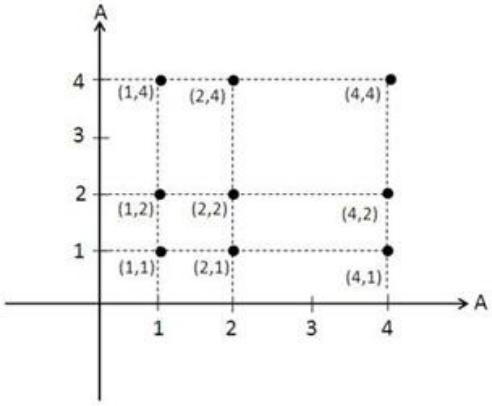
We have,

$A = \{1, 2, 4\}$

$\therefore \quad A \times A = \{1, 2, 4\} \times \{1, 2, 4\}$

$= \{(1,1), (1,2), (1,4), (2,1), (2,2), (2,4), (4,1), (4,2), (4,4)\}$

Graphical representation of $A \times A$ is shown below:



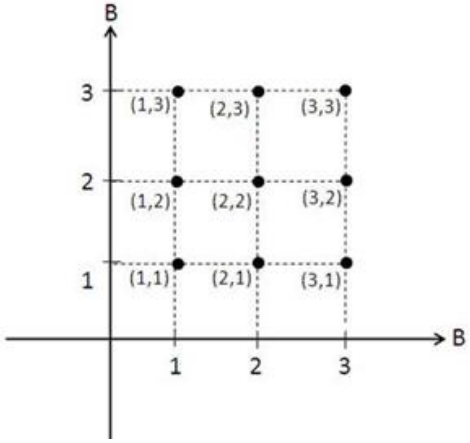
We have,

$B = \{1, 2, 3\}$

$\therefore \quad B \times B = \{1, 2, 3\} \times \{1, 2, 3\}$

$= \{(1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), (3,3)\}$

Graphical representation of $B \times B$ is shown below:



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