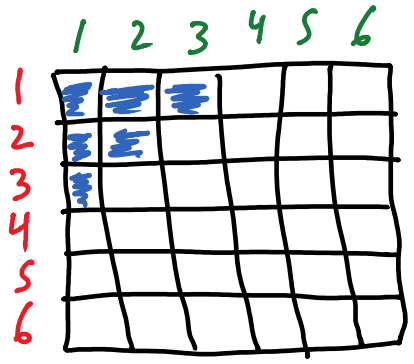
Roll two dice



$S = \{(1,1),(1,2),(1,3),\ldots,(6,6)\}$

$= \{(i,j) \mid 1 \le i \le 6$ represents red die $\}$
$1 \le j \le 6$ represents green die $\}$

E.g. Event A that the sum of the two dice is at most 4 is

$A = \{(i,j) \mid 1 \le i \le 6,\ 1 \le j \le 6,$ and $i+j \le 4\}$

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

A^c has 30 outcomes.
Notice $A \cup A^c = S$

Say B is the event that the red die shows 1 and the green die does not exceed 3.

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

B is a subset of A i.e. $B \subset A$