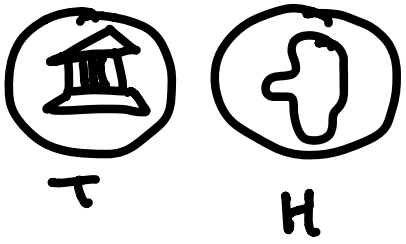
Sample Space

The set of the possible outcomes of an experiment

Ω S

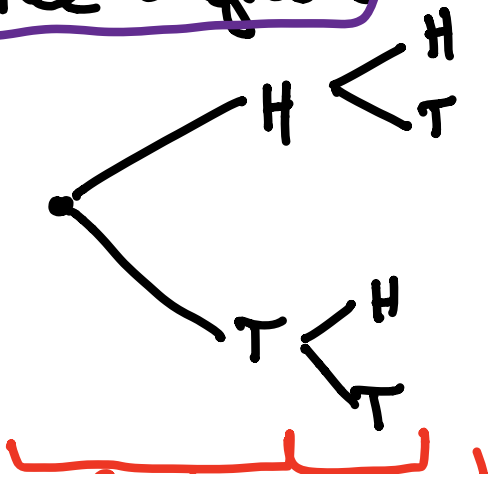
"omega"



$\Omega = \{H, T\}$

$\{W, L, T\}$

Tree diagram for flipping a coin 2x



$\Omega = \{HH, HT, TH, TT\}$

$HT \neq TH$

assume

first second

Event

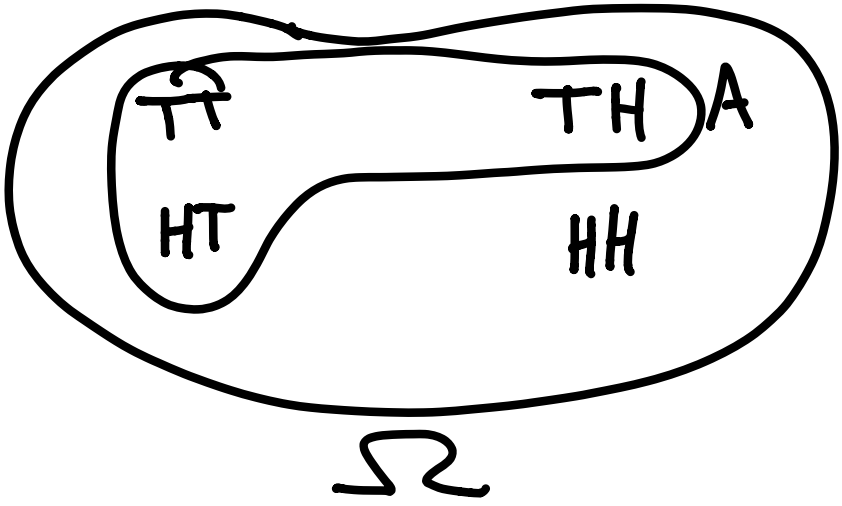
$A \subset \Omega$, An event A, is a subset of Omega.

Example

$\Omega = \{TT, HT, TH, HH\}$

A = At least one tails

$A = \{TT, HT, TH\}$



Sample Space Diagrams

	H	T
H	HH	HT
T	TH	TT

You roll two dice. The outcome of this experiment is the sum of the dice.

1. What is $|\Omega|$?

2. What is $|A|$ where A is all outcomes where the sum is at least 6?

	1	2	3	4	5	6
1	2	3	4	5	6	7
2	3	4	5	6	7	8
3	4	5	6	7	8	9
4	5	6	7	8	9	10
5	6	7	8	9	10	11
6	7	8	9	10	11	12

$\Omega = \{1 \dots 12\}$

$|\Omega| = 11$

$A = \{6, 7, 8, 9, 10, 11, 12\}$?

$|A| = 7$