Probability and Stochastic Modelling 1

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1 Events and Probability

Definition 1.0.1 (Event)**.** An event is a set of outcomes of a random experiment commonly denoted by a capital letter.

Events can be simple (a single event) or compound (two or more simple events).

Definition 1.0.2 (Sample Space)**.** The set of all possible outcomes of an experiment is known as the sample space for that experiment and is denoted Ω.

All events A are subsets of Ω, $A \subseteq \Omega$.

Definition 1.0.3 (Intersection)**.** An intersection between two events A and B describes the set of outcomes that occur in both A and B.

An intersection can be represented using the set `AND operator` $A \cup B$.