Section 1.3. Experiments and Events

Note. Examples of experiments are: flipping a coin, rolling two 6-sided dice dealing a hand of 5 cards from a standard deck of 52 cards, and measuring the temperature at a given location at noon for each day of a week. Formally, we have the following definition.

Definition 1.3.1. An *experiment* is any process, real or hypothetical, in which the possible outcomes can be identified ahead of the performance of the process. An *event* is a well-defined set of possible outcomes of the experiment.

Note. As mentioned in the previous section, we may have various interpretations of what probability means. However, once probabilities are assigned to the outcomes of an experiment, the mathematical theory of probability is well defined and well understood. The first five chapters of this book cover the mathematical theory of probability (and this is the content of Mathematical Statistics 1 [STAT 4047/5047]).

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