Sample Space *Ω (Slide 9)*

- The set of all possible individual outcomes (sample points / elementary events) of an experiment

- Example: sample space for "tossing a die"?

$$\Omega = \{1, 2, 3, 4, 5, 6\}$$

Random Variable Example (Slide 21)

- *"tossing a fair coin three time"*

  - Ω = {TTT; TTH; THT; THH; HTT; HTH; HHT; HHH}

  - Let X be the number of heads tossed in 3 times

  - We can map each outcome in Ω to a real number:

    X(TTT)=0;
    X(TTH)=1;

    X(THT)=1;
    X(THH)=2;

    X(HTT)=1;
    X(HTH)=2;

    X(HHT)=2;
    X(HHH)=3