Basic Terminology

- Probability = likelihood
- Sample space
- Trial
- Event

Calculating Probability of Events

1. Equally likely outcomes
   - Trial: Roll a dice (fair 6-sided dice)
   - $A = \text{even outcome} = \{2, 4, 6\}$
   - $B = \text{outcome } \leq 2 = \{1, 2\}$
2. **Non-equally likely outcomes & weighting**
   - **Trial:** Roll a loaded 6-sided dice where

<table>
<thead>
<tr>
<th>Outcome</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>p</td>
<td>$\frac{3}{8}$</td>
<td>$\frac{1}{8}$</td>
<td>$\frac{1}{8}$</td>
<td>$\frac{1}{8}$</td>
<td>$\frac{1}{8}$</td>
<td>$\frac{1}{8}$</td>
</tr>
</tbody>
</table>

   A = even outcome

   B = outcome $\leq 2$

   - **Trial:** Without looking inside, pick an item out a box containing: 1 pecan, 2 almonds, 3 cashews, and 5 peanuts. What is the probability of getting an almond at random?

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**To-do:**

- Finish [Lab 05](#), commit and push the lab using git commands!
- Get started with HW 4 on PL!

*This lecture notes were adapted from “Course Notes for STAT 100: Statistics” by Kelly Findley & Ha Khanh Nguyen.*