# Microproject 13: Probability Distribution Simulation

**Objective:** Simulate a probability distribution and visualize the results.

**Dataset:** dice\_rolls.csv – The dataset will store simulated outcomes of rolling a die 1000 times.

**Steps:** 1. Use Excel or Python to simulate rolling a six-sided die 1000 times. 2. Record the outcome of each roll in the dataset. 3. Create a bar chart of the frequency of each face (1–6). 4. Calculate the empirical probabilities and compare them with the theoretical probability (1/6). 5. Discuss whether the simulated distribution approximates a uniform distribution.

**Expected Output:** A dataset of simulated outcomes, a bar chart of frequencies, and a short discussion on probability distribution.

**Metadata:** Tools: Excel or Python; Duration: 1–2 weeks; Skills: Probability Simulation & Visualization (CO2, CO5).