Lecture 02
Worksheet

Mathematical Methods for Economics (ECON211)

Krea University, AY 2025-26

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In-class exercise for Lecture 02

Finding a Set

Baby Yoda and R2D2 play a game with a coin and a six-sided die. The format is: Baby Yoda wins if the coin turns head and the die shows an odd number. R2D2 wins if the coin turns tail and the die shows an even number. It's a tie otherwise. Build a set that represents all possible outcomes of the game. The referee logs some outcomes as sets

$$A = \{(Head, 2), (Tail, 4), (Tail, 3)\}$$

$$B = \{(Head, 1), (Head, 2), (Head, 4)\}$$
$$C = \{(Tail, 2), (Tail, 4), (Tail, 6)\}$$

What is the best way to describe these three sets?

Power Set

The power set of a set X is the set of all subsets of X. It is usually written as $\mathcal{P}(X)$. Take a simple set and show that the **cardinality** of the power set is $2^{|X|}$.