**Mutually Exclusive and Collectively Exhaustive (MECE)** is a fundamental principle in problem-solving, data analysis, and classification. It ensures clarity and completeness in categorization.

**1. Mutually Exclusive (ME)**

* Categories **do not overlap**—each item fits into only one category.
* No ambiguity or redundancy.
* Example: If you classify customers based on income groups:
  + Low-income: $0 - $30,000
  + Middle-income: $30,001 - $70,000
  + High-income: $70,001 and above  
    Each customer falls into exactly one category.

**2. Collectively Exhaustive (CE)**

* Categories **cover all possibilities**—nothing is left out.
* The entire dataset is accounted for.
* Example: If classifying transportation modes:
  + Walking
  + Biking
  + Public Transport
  + Driving  
    This covers all reasonable travel methods.

**MECE Together**

* A classification is **MECE** if no item is counted twice (ME) and nothing is missing (CE).
* Example: In market segmentation, "age groups 0-18, 19-35, 36-60, 61+" ensures that:
  + No age is in two groups (ME).
  + Every possible age is included (CE).