

Data Management Notes

Intro to Statistics

Qinghao Hu

September 10, 2025

Contents

1	Unit 1	2
1.1	Lecture 1	3
1.1.1	The Fundamental or Multiplicative Counting Principle	3
1.1.2	Additive Counting Principle	3
1.2	Lecture 1.2	3

Chapter 1

Unit 1

1.1 Lecture 1

1.1.1 The Fundamental or Multiplicative Counting Principle

If a task is made up of *several stages*, then the number of choices is the **product** of the number of possibilities at each stage.

1.1.2 Additive Counting Principle

In a situation with actions that cannot occurred at the "same time" than the number of possibilities is the sum of the possibilities of all the actions

!!! Remember, $0! = 1$

1.2 Lecture 1.2

A permutation is an **ARRANGEMENT** of items in a definite order.

$${}_nP_r = \frac{n!}{(n-r)!}$$