Discrete Structures

Worksheet 11.2

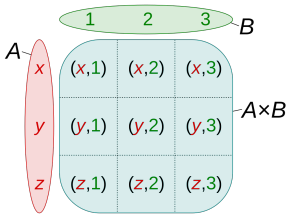
Spring 2021
March 19

1. **Warm up:** For each of the following words, find the number of unique strings that can be formed from its letters.

   (a) `country` (b) `brittle` (c) `popping` (d) `crevice` (e) `mississippi`

Summary of Theory in Combinatorics and Probability

Product Rule. If you can take the first step in a different ways, and the second step in b different ways (for any first step), then both steps together can be completed in $a \cdot b$ different ways.



Let $A = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9\}$ be the alphabet of all digits and $B = \{0, 2, 4, 6, 8\}$ be the alphabet of even digits, it is possible to make $10 \cdot 5 = 50$ 2-letter words with the first letter in A, and the second letter in B