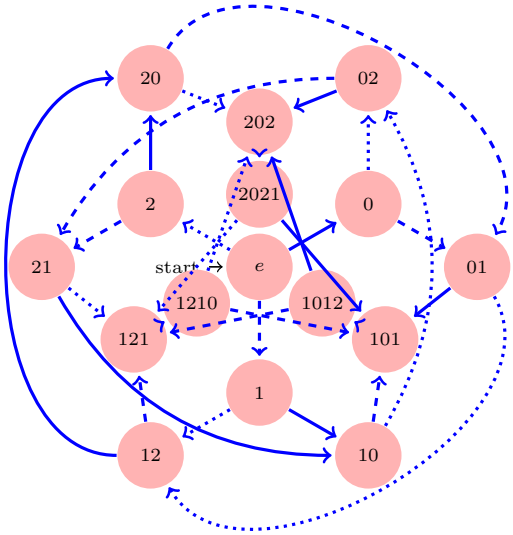
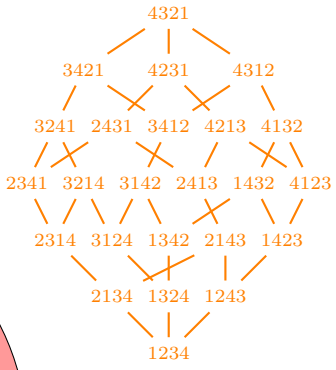
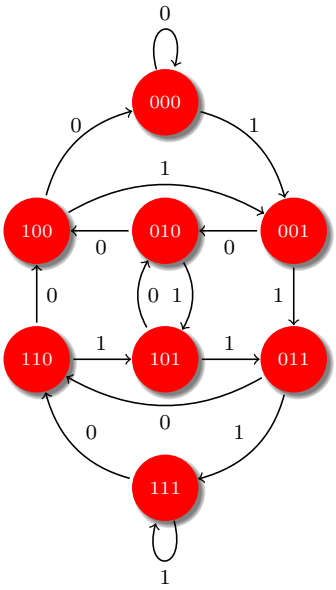
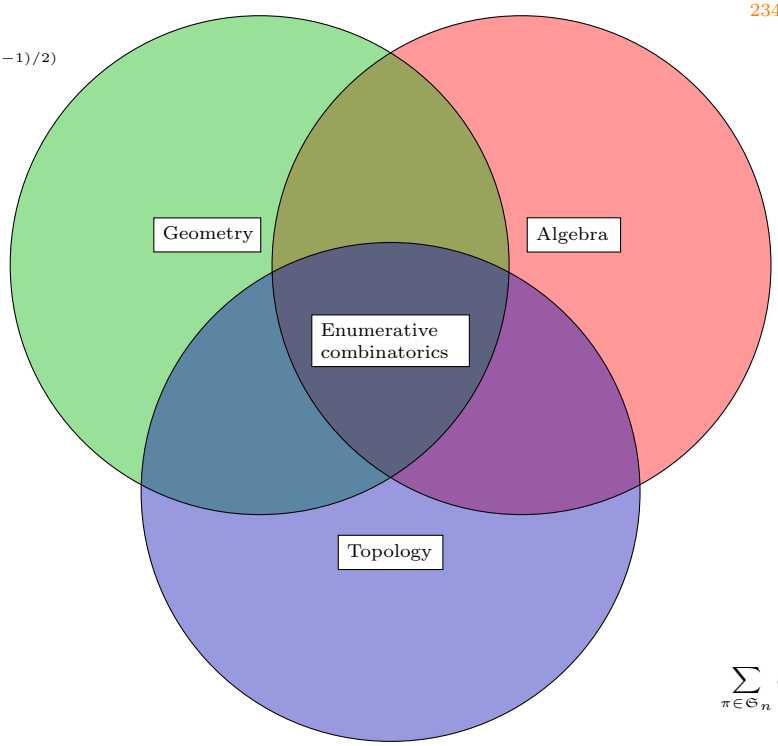




$$\prod_{k\in\mathbb{Z}}(1-x^k)=\sum_{n\geq 0}(-1)^n x^{n(3n-1)/2)}$$





$$\sum_{\pi\in\mathfrak{S}_n} q^{\mathrm{inv}\,\pi}=\prod_{k=1..n}\sum_{i=0}^{k-1} q^i$$

Class: MAT 515-Enumerative Combinatorics
Time: MW 9-10:15
Text: *Enumerative Combinatorics I&II* by Richard P. Stanley
Instructor: Susanna Fishel
We'll focus on two themes– various structures and counting techniques that are useful in many situations and various situations where counting problems arise.
MAT 514 is NOT a prerequisite.
Topics include

- Polytopes.
- Rational generating functions.
- Transfer matrix method.
- Lagrange inversion.
- Symmetric functions.