CSE 332: Data Structures and Parallelism

Summations

Gauss' Summation
$$\sum_{i=0}^{n} i = \frac{n(n+1)}{2}.$$

Infinite Geometric Series

$$\sum_{i=0}^{\infty} x^i = \frac{1}{1-x}.$$

Finite Geometric Series

$$\sum_{i=0}^{n} x^{i} = \frac{1 - x^{n+1}}{1 - x}.$$

A few more useful formulas, more can be found on the slides from lecture 2

logs

$$x^{log_x n} = n$$

$$a^{\log_x n} = n^{\log_x a}$$