0.1. Sumatorias

1. Series Aritméticas:

$$\sum_{k=1}^{n} k = \frac{n(n-1)}{2}$$

2. Sumas de cuadrados:

$$\sum_{k=0}^{n} k^2 = \frac{n(n+1)(2n+1)}{6}$$

3. Sumas de cubos:

$$\sum_{k=0}^{n} k^3 = \frac{n^2(n+1)^2}{4}$$

4. Series Geométricas:

   Para $x \neq 1$

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

   Si $|x| < 1$

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

5. Series Harmónicas:

$$\sum_{k=1}^{n} \frac{1}{k} = \ln n + O(1)$$