

The data stored is in the form $\frac{1}{\sum n^2}, \frac{2}{\sum n^2}, \dots, \frac{n}{\sum n^2}$ where n is length of the document

$$\text{Now } \frac{1^2}{\sum n^2} + \frac{2^2}{\sum n^2} + \dots + \frac{n^2}{\sum n^2} = 1$$

$$\text{Also } \frac{\sum n}{\sum n^2} = \frac{\frac{n*(n+1)}{2}}{\frac{n*(n+1)*(2n+1)}{6}} = \frac{3}{2n+1}$$

$$\text{Now if } \left(\frac{\sum n}{\sum n^2}\right) * x = 1,$$

$$\Rightarrow \left(\frac{3}{2n+1}\right) * x = 1$$

$$\Rightarrow x = \frac{2n+1}{3}$$