

Homework 1

1. Using the primitive “dot-representation” discussed in class, derive the following equality, for any natural number n :

$$1^3 + 2^3 + 3^3 + \dots + (n-1)^3 + n^3 = \left(\frac{n(n+1)}{2} \right)^2.$$

2. Structure of the World Wide Web

Read the article “New Web Map Reveals Previously Unseen ‘Bow Tie’ Organizational Structure”, by Chris Sherman.

<http://www.infoday.com/newsbreaks/nb000522-1.htm>

In the next class (or the following one), we will discuss certain structural properties of the Web.