

*If I Only Had a Brain*

$$1 = F$$

Harold Arlen

2.

1 1 1 1 1 1 1

1  $4/5$  1  $1^4$   $5^{-7}$   $1^7$

Diagram illustrating the greedy algorithm for the 7-disk Tower of Hanoi problem, showing four examples of move sequences and their corresponding states.

- Example 1:**
  - States:  $4$ ,  $4^{07}$
  - Moves:  $6$ ,  $5$ ,  $6$ ,  $7$
- Example 2:**
  - States:  $3^{-7}$ ,  $6^7$
  - Moves:  $5$ ,  $6$
- Example 3:**
  - States:  $2^{-7}$ ,  $5^7$
  - Moves:  $4$ ,  $4$ ,  $4$ ,  $5$
- Example 4:**
  - States:  $1^{47}$ ,  $1^4$
  - Moves:  $3$ ,  $4$ ,  $3$

Figure 1: A diagram showing the evolution of the number of nodes in a network over time. The diagram is divided into four vertical sections by lines. The first section shows a sequence of nodes labeled 2, #1, 2, #1, 2, #1, 2, and 3, with a horizontal bar labeled 1 below them. The second section shows a sequence of nodes labeled 2, 3, 5, and 6, with a horizontal bar labeled  $2^9$  below them. The third section shows a sequence of nodes labeled #4, 3, and 2, with a horizontal bar labeled  $\#1^{07}$  below them. The fourth section shows a sequence of nodes labeled 5, 3, and 4, with a horizontal bar labeled  $5/2^7$  below them. The diagram is labeled "D.S. al Coda" at the top right and "N.C." at the bottom right.

Diagram illustrating a 5-adic expansion. A vertical line separates the integer part from the fractional part. To the left of the line, the digit 1 is shown above the digit 1. To the right of the line, the digit 1 is shown above the digit  $5^7$ .