

The Lady Is A Tramp

$$1 = C$$

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5

1

1

1

1

1

1

1

2

5

5

5

5

5

6

6

6

$1^{4 \cdot 7}$

2^{-7}

3^{-7}

2^{-7}

$1^{4 \cdot 7}$

3^{-7}

6^7

The diagram illustrates the construction of a 7-adic integer by concatenating blocks of digits. The blocks are labeled with their base and length: 2^4 , 3^7 , $\#4^7$, 3^7 , 2 , $\#4^7$, and 7^7 . The digits are shown in blue boxes, and the construction is divided into sections by vertical lines.

The diagram illustrates the construction of a 2-adic expansion for a number in the interval $[0, 1]$. It shows four stages of the process, separated by vertical lines. Each stage shows a sequence of digits (1, 6, 7, 5) and their corresponding powers of 2 (2^{13} , 2^{-7} , 2^7 , 2^{-7} , 5^7). The digits are represented by blue boxes, and the powers of 2 are written below them.

Stage	Digits	Powers of 2
1	1, 1, 1, 1	2^{13}
2	6, 6, 6, 6	2^{-7} , 2^7
3	7, 7, 7, 7	2^{13}
4	5, 5, 5	2^{-7} , 5^7

Diagram of a 4-qubit quantum circuit. The circuit consists of four horizontal qubit lines. The gates are applied as follows:

- Qubit 1: $1^{\Delta 7}$ (light blue), 2^{-7} (light green)
- Qubit 2: $1^{\Delta 7}$ (light blue), 2^{-7} (light green)
- Qubit 3: 5 (light orange), 5 (light orange)
- Qubit 4: $b7$ (light purple), $b7$ (light purple)

Diagram illustrating a 1D lattice with 10 sites. The sites are labeled with values: 6, 2, 2, 2, 2, 2, 2, 2, 2, 2. The lattice is divided into four regions by vertical lines. The regions are labeled with values: 6^{-7} , 2^7 , 6^{-7} , and 2^7 .

Diagram illustrating the decomposition of 5^7 into binary representations across four columns:

- Column 1: 5^7 is represented as four 5 's.
- Column 2: 5^7 is represented as four 5 's and a 3^4 .
- Column 3: 5^7 is represented as a single 2^{-7} .
- Column 4: 5^7 is represented as a single 5^7 .

$\begin{bmatrix} 1 & 7 & 2 \\ \vdots \end{bmatrix}$	$\begin{bmatrix} b7 & b7 & b7 \\ b5^{-7} & b6^7 \end{bmatrix}$	$\begin{bmatrix} 6 & 6 & 7 \\ 2^{-7} & 5^7 \end{bmatrix}$	
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$\begin{bmatrix} 1 & 7 & 2 \\ 1^{47} \end{bmatrix}$	$\begin{bmatrix} b7 & b7 & b7 \\ b5^{-7} & b6^7 \end{bmatrix}$	$\begin{bmatrix} 6 & 6 & 7 \\ 2^{-7} & 5^7 \end{bmatrix}$	
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$\begin{bmatrix} 1 & 5 & 3 \\ 1^{47} \end{bmatrix}$	$\begin{bmatrix} 2 & 2 & 2 \\ 5^{-7} & 1^7 \end{bmatrix}$	$\begin{bmatrix} 1 & 2 & 3 & 4 \\ 4^{47} & 4^{-7} & b7^7 \end{bmatrix}$	
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$\begin{bmatrix} 3 & 3 & 3 \\ 3^{-7} & 6^{7\text{add } b9} \end{bmatrix}$	$\begin{bmatrix} 2 & 2 & 2 & 2 \\ 2^{-7} & 5^{7\text{add } b9} \end{bmatrix}$	$\begin{bmatrix} 1 & 6^{7\text{add } b9} \\ 1^{47} & 2^{-7} & 5^7 \end{bmatrix}$	
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$\begin{bmatrix} 1 & 7 & 2 \\ 1^{47} \end{bmatrix}$	$\begin{bmatrix} b7 & b7 & b7 \\ b5^{-7} & b6^7 \end{bmatrix}$	$\begin{bmatrix} 6 & 6 & 7 \\ 2^{-7} & 5^7 \end{bmatrix}$	
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$\begin{bmatrix} 1 & 7 & 2 \\ 1^{47} \end{bmatrix}$	$\begin{bmatrix} b7 & b7 & b7 \\ b5^{-7} & b6^7 \end{bmatrix}$	$\begin{bmatrix} 6 & 6 & 7 \\ 2^{-7} & 5^7 \end{bmatrix}$	
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$\begin{bmatrix} 1 & 5 & 3 \\ 1^{47} \end{bmatrix}$	$\begin{bmatrix} 2 & 2 & 2 \\ 5^{-7} & 1^7 \end{bmatrix}$	$\begin{bmatrix} 1 & 2 & 3 & 4 \\ 4^{47} & 4^{-7} & b7^7 \end{bmatrix}$	
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