## Axiom 7

There exists a whole number 0 .
Axiom 8
Every whole number $n$ has a successor, succ $n$.

## Axiom 9

No whole number has 0 as its successor.

## Axiom 10

If $a, b \in \mathbb{W}$, then $a=b$ iff succ $a=\operatorname{succ} b$.

5 is a whole number because

5 is a whole number because it is the successor of 4 , which is a whole number because

5 is a whole number because it is the successor of
4, which is a whole number because it is the successor of 3 , which is a whole number because

5 is a whole number because it is the successor of 4, which is a whole number because it is the successor of 3 , which is a whole number because it is the successor of 2 , which is a whole number because

5 is a whole number because it is the successor of
4, which is a whole number because it is the successor of
3 , which is a whole number because it is the successor of
2, which is a whole number because it is the successor of 1 , which is a whole number because

5 is a whole number because it is the successor of
4, which is a whole number because it is the successor of 3 , which is a whole number because it is the successor of

2, which is a whole number because it is the successor of 1 , which is a whole number because it is the successor of 0 , which is a whole number by Axiom 7.

| HOOOHOO | 0101 |
| :---: | :---: |
| HOOOOOOD | 110 |

Hololer HOHO
HOOOOCOOS

| HOOOH | 100010 |
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| OOOOOOOOOD | 1 |

$\qquad$
OOOODOOOOI

## Tree

internal node
leaf


Full Binary Tree


