

Diagram illustrating the construction of a 3D tree structure for the sequence $-1 -6 -5 -4 -3 -2$. The tree is rooted at $-1 -6 -5 -4 -3 -2$ and branches downwards. The root node is labeled $-1 -6 -5 -4 -3 -2$. The first level of branching shows four nodes: $5, -6$, $4, -3$, $4, -3$, and $2, -1$. The second level shows nodes: $3, -2$, $5, -4$, $5, -4$, $2, -1$, $2, -3$, $5, -4$, $5, -4$, and $4, -3$. The third level shows nodes: $-1 -6 -2 -3 -4 -5$, $-1 -6 -2 -3 -4 -5$, $34 \text{DUP} -1 -6 -5 -4 -3 -2$, $22 \text{DUP} -1 -6 -5 -4 -3 -2$, $22 \text{DUP} -1 -6 -5 -4 -3 -2$, $22 \text{DUP} -1 -6 -5 -4 -3 -2$, $22 \text{DUP} -1 -6 -5 -4 -3 -2$, and $22 \text{DUP} -1 -6 -5 -4 -3 -2$. The fourth level shows nodes: $6 1 2 3 -4 -5$, $-1 -6 -2 -3 -4 -5$, $-1 -6 -5 -4 -3 -2$, $11 \text{DUP} -1 -6 -2 -3 -4 -5$, $5 \text{DUP} -1 -6 -2 -3 -4 -5$, $5 \text{DUP} -1 -6 -2 -3 -4 -5$, $35 \text{DUP} -1 -6 -2 -3 -4 -5$, $48 \text{DUP} -1 -6 -2 -3 -4 -5$, $8 \text{DUP} -1 -6 -5 -4 -3 -2$, $6 1 2 3 -4 -5$, $2, -1$, $5, -6$, $4, -3$, $4, -3$, $2, -1$, $5, -6$, $2, -1$, $5, -6$, $2, -1$, $2, -3$, $2, -1$, $5, -6$, $2, -1$, $2, -3$.