Definitions

$$F((H_N,T),\Delta T) \rightarrow (H_{N-1},T+\Delta T) \text{ where } 0 \leq \Delta T \leq 2^{N-2}$$
$$K((H_N,T)) \rightarrow (H_{N-1},T),(H_{N-1},T),(H_{N-1},T)$$
$$G((H_N,T),(H_N,T)) \rightarrow (H_{N+1},T)$$

$F((H_N,T),\Delta T):$

Assert $\Delta T \leq 2^{N-2}$

$\Delta T_1 = \min(\Delta T, 2^{N-3})$

$\Delta T_2 = \max(\Delta T - 2^{N-3}, 0)$

$a,b,c = K((H_N,T)) : (H_{N-1},T)\forall a,b,c$

$d,e,f = F([a,b,c],\Delta T_1) : (H_{N-2},T+\Delta T_1)\forall d,e,f$

$g,h = G([(d,e),(e,f)]) : (H_{N-1},T+\Delta T_1)\forall g,h$

$i,j = F([g,h],\Delta T_2) : (H_{N-2},T+\Delta T_1+\Delta T_2)\forall i,j$

Return $G(i,j) : (H_{N-1},T+\Delta T_1+\Delta T_2) = (H_{N-1},T+\Delta T)$

$F((H_2,T),\Delta T) \rightarrow (H_1,T+\Delta T)$ where $0 \leq \Delta T \leq 1$

If $\Delta T = 0$:

- Pass last input through

Else:

- Solve 4x4 square

Comments

- Memoize the inputs to $F((H_N,T),\Delta T)$