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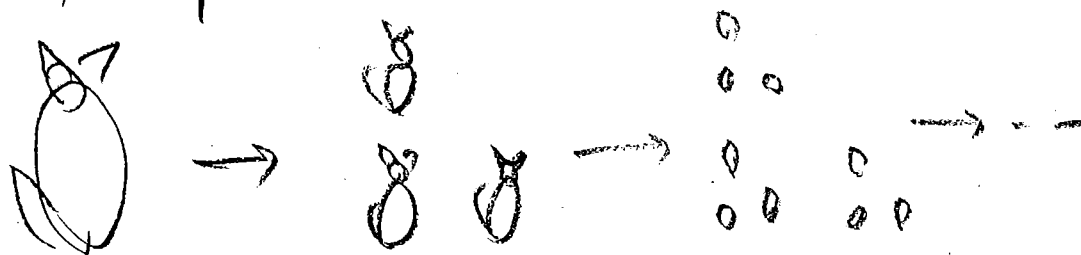
# Sept 17 Review

Two methods for rendering fractal images:

## 1. Deterministic algorithm

[recipe without randomness]

Apply all transformations to the result of the previous application.



## 2. Random algorithm

[recipe with randomness]

Apply the transformations one at a time in random order, each time to the previous point, keeping all the points



points dance across the gasket.

Addresses Square DFS rules.

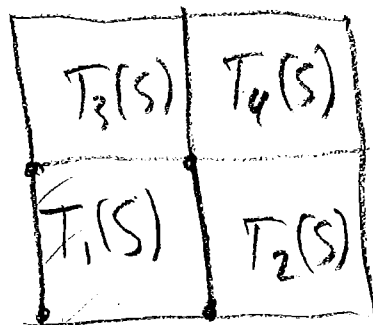
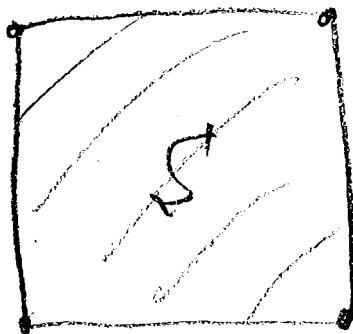
②

$$T_1(x, y) = (x/2, y/2) \quad (\text{half-way to } (0,0))$$

$$T_2(x, y) = (x/2, y/2) + (1/2, 0) \quad (\text{half-way to } (1,0))$$

$$T_3(x, y) = (x/2, y/2) + (0, 1/2) \quad (\text{half-way to } (0,1))$$

$$T_4(x, y) = (x/2, y/2) + (1/2, 1/2) \quad (\text{half-way to } (1,1))$$



=

|   |   |
|---|---|
| 3 | 4 |
| 1 | 2 |

length-1  
addresses

|    |    |    |    |
|----|----|----|----|
| 33 | 34 | 43 | 44 |
| 31 | 32 | 41 | 42 |
| 13 | 14 | 23 | 24 |
| 11 | 12 | 21 | 22 |

length 2  
addresses

$T_2(T_4(S))$

$T_3: \begin{matrix} r & s & t & u & v & w \\ .5 & .5 & 0 & 0 & 0 & .5 \end{matrix}$