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3(59))

Schroeder
letter

2 pages

M. R. Schroeder
191 Sutton Drive
Berkeley Heights,
New Jersey 07922

~~A3159~~

5 May 94

A56832

908-322-4391

Say

Dear Neil,

The attached reference seems to be
missing from your encyclopedia.

Reference M. Schroeder: Fractals, Upper
Power Law (Freeman, NY 91) pp. 277-279.

Regards,

Wilson Fed

M. R. Schroeder

In[16] := Recursive computation of S_n ~~78%~~

In[15] := x={1};Do[y=Flatten[{x,2,x}];x=Flatten[{y,1,y}],{4}];x AS6832

Out[15] = ⁿ⁼¹ {1, 2, 1, 1, 1, 2, 1, 2, 1, 2, 1, 1, 1, 2, 1, 1, 1, 2, 1, 1, 1, 2, 1, 1, 1, 2, 1, 1, 1, 2,
> 1, 2, 1, 2, 1, 1, 1, 2, 1, 2, 1, 2, 1, 1, 1, 2, 1, 2, 1, 2, 1, 1, 1, 2,
> 1, 1, 1, 2, 1, 1, 1, 2, 1, 2, 1, 2, 1, 1, 1, 2, 1, 1, 1, 2, 1, 1, 1, 2,
> 1, 2, 1, 2, 1, 1, 1, 2, 1, 1, 1, 2, 1, 1, 1, 2, 1, 2, 1, 2, 1, 1, 1, 2,
> 1, 2, 1, 2, 1, 1, 1, 2, 1, 2, 1, 2, 1, 1, 1, 2, 1, 1, 1, 2, 1, 1, 1, 2,
> 1, 2, 1, 2, 1, 1, 1, 2, 1, 2, 1, 2, 1, 1, 1, 2, 1, 2, 1, 2, 1, 1, 1, 2,
> 1, 1, 1, 2, 1, 1, 1, 2, 1, 2, 1, 2, 1, 1, 1, 2, 1, 1, 1, 2, 1, 1, 1, 2,
> 1, 2, 1, 2, 1, 1, 1, 2, 1, 1, 1, 2, 1, 1, 1, 2, 1, 2, 1, 2, 1, 1, 1, 2,
> 1, 1, 1, 2, 1, 1, 1, 2, 1, 2, 1, 2, 1, 1, 1, 2, 1, 1, 1, 2, 1, 1, 1, 2,
> 1, 2, 1, 2, 1, 1, 1, 2, 1, 2, 1, 2, 1, 1, 1, 2, 1, 2, 1, 2, 1, 1, 1, 2,
> 1, 1, 1, 2, 1, 1, 1, 2, 1, 2, 1, 2, 1, 1, 1, 2, 1, 1, 1, 2, 1, 1, 1, 2,

In[16] := ~~78%~~

Symbolic Dynamics of quadratic maps $z_{n+1} = z_n^2 + c$
at the accumulation point of period-doubling
bifurcations, $c = -1.4011\dots$. $z_n < \frac{1}{2} : S_n = 2$; $z_n > \frac{1}{2} : S_n = 1$; $n \in \mathbb{N}$
($z_0 = \frac{1}{2}$). Direct computation: Let $n = 2^q(2m+1)$, then
 $S_n = 1 + q \pmod{2}$. S_n is also the first difference of Thue-Morse $\pmod{2}$.