



```

(* Construct a Peano curve *)

(* Return a finer curve with the same endpoints *)
(* b is at the center of a square *)
Finer[{a_,b_}]:= CutUp[b + ((a-b)/2)*{2,1,1+I,I,-1+I,-1,-1-I,-I,1-I,
0}];

CutUp[zs_]:=Table[{zs[[i]],zs[[i+1]]},{i,1,Length[zs]-1}]

Pt[z_]:= {Re[z],Im[z]}
Ar[{a_,b_}]:=Arrow[{Pt[a],Pt[b]}]
Ar[{a_,b_}]:=Line[{Pt[a],Pt[b]}]

SetOptions[Graphics,AspectRatio->Automatic]
Di[segs_]:=Show[Graphics[Map[Ar,segs]]]

LevQ[0,-1]:=True
LevQ[z_,n_]:=If[IntegerQ[2^n Re[z]] || IntegerQ[2^n Im[z]],False,True]

EvolSeg[{a_,b_},n_]:=If[LevQ[b,n],Finer[{a,b}],{a,b}]

Evol[segs_,n_]:=Join @@ Map[EvolSeg[#,n]&,segs]

seg0 = {{1,0}}
seg1 = Evol[seg0,-1]
seg2 = Evol[seg1,0]
seg3 = Evol[seg2,1]
seg4 = Evol[seg3,2]
seg5 = Evol[seg4,3]
seg6 = Evol[seg5,4]

MakeGrid[graphics_,n_]:= GraphicsGrid[Partition[graphics,n,n,{1,1},
{}]]
gs = Map[Di,{seg1,seg2,seg3,seg4,seg5,seg6}]

Show[MakeGrid[gs,2]]

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