Eli — PS 10 — 2025-02-25

EIWL3 Sections 26, 27, and 28

Chapter 26

In[314]:= Grid [{EntityList [# Group of 5 COUNTRIES •] [#], EntityList [Group of 5 COUNTRIES [[#] ["Flag"] } & /@ Range [5], Frame → All

Out[314]=



In[315]:=

WordCloud[WikipediaData[#]] & /@ {"apple", "pear", "peach"}

Out[315]=

color England high cidername aphid nuts America generally diseases goddess cooking time Foodseeds including thoneycrisp Davidson leaves 2017 United varieties University Used Aphrodite form freshgroup genomemythology cultivated North rawdisease rootstocks fruit Malus States use Chinastorage Cultivars domestical form the cooking of the Golden ISBN Asia cultivar sieversii esfound fruits sieversii organic growing calledproduced growing calledproduced century cultivation size GreekCollection popular introduced browning small cookedflowering commonly controlledbreeding Pests juicewildbrown different grown eating ethylearly

Book LatinAccording Calleryanaleavesedibleflowers form Subsp. Chinaussuriensisvariety applescider foodproduce Chinaussuriensisvariety applescider foodproduce Africa, temperate Cultivated Consumed John Porry Instruments Communis Asia ripen Varieties Communis Asia ripen Varieties Communis Asia produced Wild Latin Port Communis Asia ripen Varieties Communis Asia ripen Varieties Communis Asia ripen Varieties Communis Asia ripen Varieties Pur USE Communis Asia ripen Varieties Pur USE Communis Asia Production Substantial Product

English related world apple borer total biosomperiod, growinggenetic flower blossom period, growinggenetic flower blossom period, growinggenetic flower blossom period, growinggenetic flower blossom period, including different growth breeding East America production published leaves blossom period period for the period flower blossom period flower blo North Japan persicanectarines Japan persicanectarines species skinsouthPrunusfruit cultivarsuseda mothsignificant domestication cm sourceswil United European grown moderncalled European grown moderncalled fleshwhiteyears centralchillingstone

In[316]:= Histogram[StringLength[TextWords[WikipediaData[#]]]] & /@ {"apple", "pear", "peach"} Out[316]= 1200 | , 150 In[317]:= GeoGraphics EntityList South America COUNTRIES ••• 🗸 Range Length EntityList South America COUNTRIES ...]]] Out[317]=

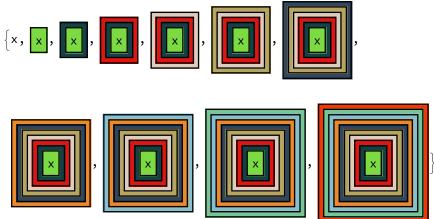


Chapter 27

In[318]:= NestList[Blur[#] &, Rasterize[Style["x", 30]], 10] Out[318]=

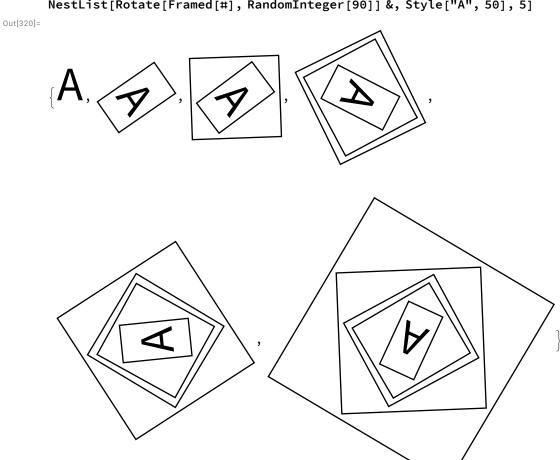
 $\{X, X, X, X, X, X, X, X, X, X, X\}$





In[320]:=

NestList[Rotate[Framed[#], RandomInteger[90]] &, Style["A", 50], 5]

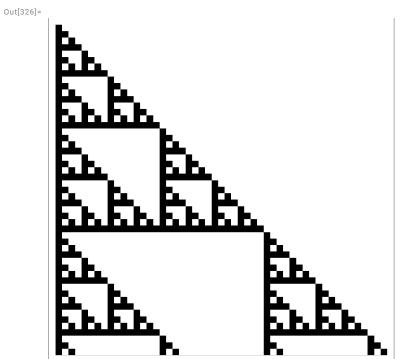


In[321]:= ListLinePlot[NestList[4 # (1-#) &, 0.2, 100]] Out[321]= 1.0 In[322]:= N[NestList[1+1/#&, 1, 30][30]]Out[322]= 1.61803 In[323]:= NestList[3 # &, 1, 10] Out[323]= {1, 3, 9, 27, 81, 243, 729, 2187, 6561, 19683, 59049} In[324]:= NestList[(#+2/#)/2&,1.0,5]-Sqrt[2] Out[324]= $\{-0.414214, 0.0857864, 0.0024531, 2.1239 \times 10^{-6}, 1.59472 \times 10^{-12}, -2.22045 \times 10^{-16}\}$ In[325]:= NestList[[{#[1] + RandomReal[-1, 1], #[2] + RandomReal[-1, 1]}] &, {0, 0}, 1000] (*no idea what's going on here*)

••• Syntax: Expression cannot begin with "[{#[[1]] + RandomReal[-1, 1], #[[2]] + RandomReal[-1, 1]}] &".

In[325]:=

In[326]:= ArrayPlot[NestList[Mod[Join[{0}, #] + Join[#, {0}], 2] &, {1}, 50]]



In[327]:= NestGraph[{#+1, 2#} &, 0, 10]

Out[327]=

```
In[328]:=
       . GeoNearest: A network operation for GeoNearest timed out. Please try again later.
       ••• GeoNearest: $Failed is not a valid location specification.
       ••• GeoNearest: GeoNearest[Country, $Failed] is not a valid location specification.
       GeoNearest: GeoNearest[Country, GeoNearest[Country, $Failed]] is not a valid location specification.
       😶 General: Further output of GeoNearest::invloc will be suppressed during this calculation. 🕡
Out[328]=
         United States | , $Failed, GeoNearest[Country, $Failed],
         GeoNearest[Country, GeoNearest[Country, $Failed]],
         GeoNearest[Country, GeoNearest[Country, GeoNearest[Country, $Failed]]] |
 Chapter 28
In[329]:=
       123 ^ 321 > 456 ^ 123
Out[329]=
       True
In[330]:=
       IntegerDigits /@ Range[100]
Out[330]=
       \{\{1\}, \{2\}, \{3\}, \{4\}, \{5\}, \{6\}, \{7\}, \{8\}, \{9\}, \{1, 0\}, \{1, 1\}, \{1, 2\}, \{1, 3\},
         \{1, 4\}, \{1, 5\}, \{1, 6\}, \{1, 7\}, \{1, 8\}, \{1, 9\}, \{2, 0\}, \{2, 1\}, \{2, 2\},
         \{2,3\},\{2,4\},\{2,5\},\{2,6\},\{2,7\},\{2,8\},\{2,9\},\{3,0\},\{3,1\},
         \{3, 2\}, \{3, 3\}, \{3, 4\}, \{3, 5\}, \{3, 6\}, \{3, 7\}, \{3, 8\}, \{3, 9\}, \{4, 0\}, \{4, 1\},
         \{4, 2\}, \{4, 3\}, \{4, 4\}, \{4, 5\}, \{4, 6\}, \{4, 7\}, \{4, 8\}, \{4, 9\}, \{5, 0\}, \{5, 1\},
         \{5, 2\}, \{5, 3\}, \{5, 4\}, \{5, 5\}, \{5, 6\}, \{5, 7\}, \{5, 8\}, \{5, 9\}, \{6, 0\}, \{6, 1\},
         \{6, 2\}, \{6, 3\}, \{6, 4\}, \{6, 5\}, \{6, 6\}, \{6, 7\}, \{6, 8\}, \{6, 9\}, \{7, 0\}, \{7, 1\},
         \{7, 2\}, \{7, 3\}, \{7, 4\}, \{7, 5\}, \{7, 6\}, \{7, 7\}, \{7, 8\}, \{7, 9\}, \{8, 0\}, \{8, 1\},
         \{8, 2\}, \{8, 3\}, \{8, 4\}, \{8, 5\}, \{8, 6\}, \{8, 7\}, \{8, 8\}, \{8, 9\}, \{9, 0\}, \{9, 1\},
         \{9, 2\}, \{9, 3\}, \{9, 4\}, \{9, 5\}, \{9, 6\}, \{9, 7\}, \{9, 8\}, \{9, 9\}, \{1, 0, 0\}\}
In[331]:=
       If[PrimeQ[#] == True, Style[#, Red], #] & /@ Range[20]
Out[331]=
       \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20\}
In[332]:=
       Select[WordList[], Last[Characters[#]] == "p" && First[Characters[#]] == "p" &]
Out[332]=
       {pap, paperclip, parsnip, partisanship, partnership, pawnshop, peep, penmanship,
         pep, pickup, pileup, pip, plop, plump, polyp, pomp, pop, premiership,
        prep, primp, professorship, prop, proprietorship, pulp, pump, pup}
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9232, 4616, 2308, 1154, 577, 1732, 866, 433, 1300, 650, 325, 976, 488, 244, 122, 61, 184, 92, 46, 23, 70, 35, 106, 53, 160, 80, 40, 20, 10, 5, 16, 8, 4, 2, 1, 4, 2,

In[339]:=

```
WordCloud[Select[TextWords[WikipediaData["Computers"]], StringLength[#] == 5 &]]
Out[339]=
                       doingabove drove
          break chips
          casesbased Mouse
                             undercards found gates Along
            women given being Wor
           began <sub>I</sub>
      givesmight
                                             NIACrange
       still
       field
                                  speed
        <sup>1970s</sup>large
                            paperabout<sub>cause</sub>until<sup>1,500</sup>
                             shortusageBerry
                                               2000seight
               equalallow
In[340]:=
      Select[WordList[], StringLength[#] ≥ 3 &&
          StringTake[#, 3] == StringTake[StringReverse[#], 3] && StringReverse[#] # # &]
Out[340]=
       {despised, detected, detested, drainboard,
        foolproof, lackadaisical, marjoram, revolver}
In[341]:=
      Select[Select[WordList[], StringLength[#] == 10 &],
       Total[LetterNumber /@ Characters[#]] == 100 &]
Out[341]=
       {accumulate, alienation, answerable, apoplectic, aquamarine, bewitching, censurable,
        ceramicist, chastening, chimpanzee, clinically, collecting, condensate,
        congenital, conjugated, connivance, declension, deliquesce, demobilize,
        demodulate, denominate, diagonally, discipline, discommode, egoistical,
        emasculate, embodiment, emendation, empathetic, fatalistic, fatherhood,
        geographer, hemoglobin, inadequacy, interbreed, leveraging, liberalism,
        likelihood, martingale, mercantile, meridional, neoclassic, paramecium,
        plebiscite, potbellied, quadrangle, reciprocal, regimented, reschedule,
        researcher, scoreboard, septicemia, shibboleth, sleepyhead, stagecraft,
        stalemated, temperance, thickening, threatened, uncombined, unmodified}
```