Jeremy — PS 10 — 2025-02-25

EIWL3 Sections 26, 27, and 28

Out[184]=

In[183]:= Grid [{#, EntityValue[#, "Flag"]} & /@ EntityList [Group of 5 COUNTRIES ...], Frame → All

Out[183]= France Germany Japan **United Kingdom United States**

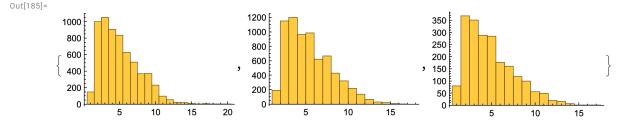
In[184]:= WordCloud[WikipediaData[#]] & /@ {"Apple", "Peach", "Pear"}

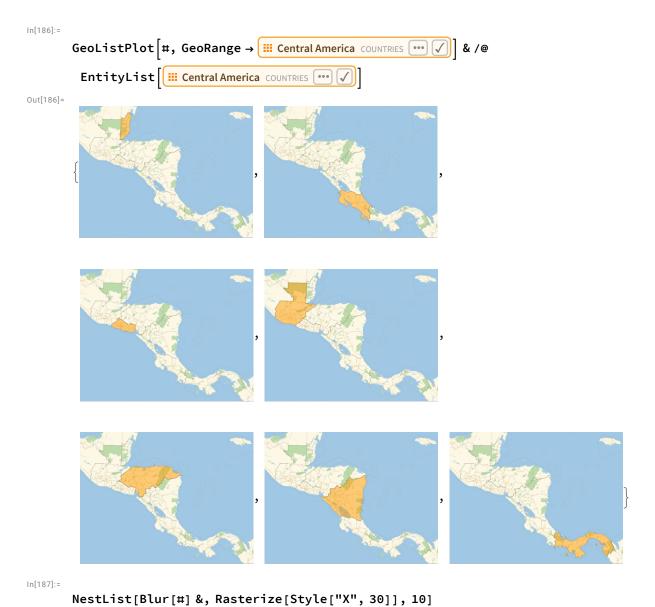
color England high cidername aphid nuts diseases goddess cooking time leaves 2017 United varieties University used Aphrodite form fresh group genomeny thology cultivated North include trees production domestica rawdisease rootstocks fruit Malus states use Chinastorage Cultivated Mynth new species ISBN Asia cultivar C cfound growing calledproduced Century cultivation ize GreekCollection popular introduced browning small cooked flowering commonly controlled breeding Pests juicewild brown different grown eating ethylearly grow

Englishrelated world apple borer total blossom period, growing genetic flower blossom period, growing growth states usually naturalized found America grow due arly American production published leaves BCEE urope fruits cultivation Chinese known ame tree peaches temperatures crop name tree peaches Flowers gellow North of the peach state of the peach stat skinsouthPrunusfruit cultivarsused3
mothsignificant moth significant domestication cm sourceswi
United European grown modern called
State eastern centralchillingstone
fleshwhite years cherry place

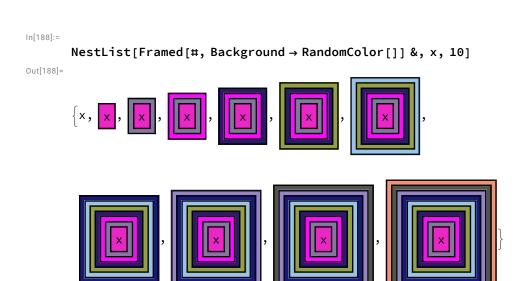
Book Latin According Calleryanaleavesedible flowers from Subsp. Chin aussuriensis variety applescider foodproduce hin aussuriensis variety applescider foodproduce harrica, temperate cultivate do nosumed blocks Africa, temperate cultivate do nosumed blocks apper varieties party TUSEuropeangenus produced produced pull tree 20 Cal Subset 3,000 apple Europe ipeNorth +1Western ripe North PerNorth 1 x Cultivarstall 2 cultivation SPECIES com green manufacture/Asian native sinkiangensis fruit pfurnitureBureau summer de foundpyrifoliabretschneideriknown world regions-ripeningrootstocksagricultureCooking Like History whitewordaccountsBradfordtableAward

In[185]:= Histogram[StringLength[TextWords[WikipediaData[#]]]] & /@ {"Apple", "Peach", "Pear"}

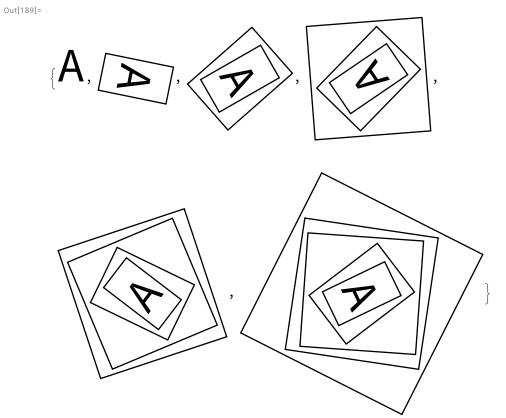




Out[187]= $\{X, X, X, X, X, X, X, X, X, X\}$



NestList[Rotate[Framed[#], RandomReal[{0, 360 °}]] &, Style["A", 50], 5]



In[190]:= ListLinePlot[NestList[4 # (1 - #) &, 0.2, 100]]

Out[190]=

In[191]:=

N[Nest[1+1/#&, 1, 30]]

Out[191]=

1.61803

In[192]:=

NestList[3 # &, 1, 10]

Out[192]=

{1, 3, 9, 27, 81, 243, 729, 2187, 6561, 19683, 59049}

In[193]:=

NestList[(#+2/#)/2&, 1.0, 5] - Sqrt[2]

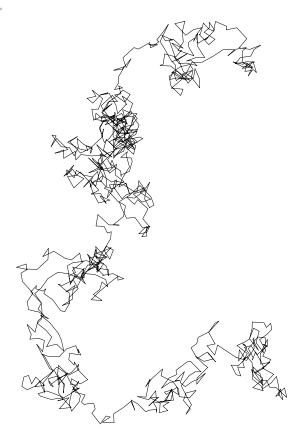
Out[193]=

 $\left\{-0.414214,\, 0.0857864,\, 0.0024531,\, 2.1239\times 10^{-6},\, 1.59472\times 10^{-12},\, -2.22045\times 10^{-16}\right\}$

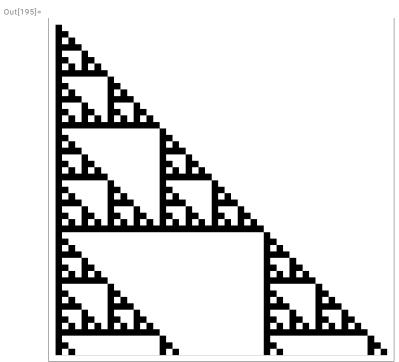
In[194]:=

Graphics[Line[NestList[# + RandomReal[{-1, 1}, 2] &, {0, 0}, 1000]]]

Out[194]=



In[195]:= ArrayPlot[NestList[Mod[Join[{0}, #] + Join[#, {0}], 2] &, {1}, 50]]



In[196]:= NestGraph[{#+1, 2#} &, 0, 10]

Out[196]=

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In[197]:=
       NestGraph | #["BorderingCountries"] &,
        ■ Entity["Country", "UnitedStates"]  , 4, VertexLabels → All]
Out[197]=
                                 Belize
         Nicaragua
                  Honduras
                                      Mexico
                            Guatemala
                                                United State Canada
                     El Salvador
In[198]:=
       123 ^ 321 > 456 ^ 123
Out[198]=
       True
In[199]:=
       Select[Range[100], Total[IntegerDigits[#]] < 5 &]</pre>
Out[199]=
       \{1, 2, 3, 4, 10, 11, 12, 13, 20, 21, 22, 30, 31, 40, 100\}
In[200]:=
       If[PrimeQ[#], Style[#, Red], #] & /@ Range[20]
Out[200]=
       \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20\}
In[201]:=
       Select[WordList[], First[Characters[#]] == "p" && Last[Characters[#]] == "p" &]
Out[201]=
       {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}
In[202]:=
       Select[Table[Prime[n], {n, 100}], Last[IntegerDigits[#]] < 3 &]</pre>
Out[202]=
       {2, 11, 31, 41, 61, 71, 101, 131, 151, 181, 191, 211,
        241, 251, 271, 281, 311, 331, 401, 421, 431, 461, 491, 521, 541}
In[203]:=
       Select[Table[RomanNumeral[n], {n, 100}], ! MemberQ[Characters[#], "I"] &]
Out[203]=
       {V, X, XV, XX, XXV, XXX, XXXV, XL, XLV,
        L, LV, LX, LXV, LXX, LXXV, LXXX, LXXXV, XC, XCV, C}
In[204]:=
       Select[RomanNumeral[Range[1000]], StringReverse[#] == # &]
Out[204]=
       {I, II, III, V, X, XIX, XX, XXX, L, C, CXC, CC, CCC, D, M}
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In[205]:=
      Select[IntegerName[Range[100]], First[Characters[#]] == Last[Characters[#]] &]
Out[205]=
      {nineteen, twenty-eight, thirty-eight, eighty-one,
        eighty-three, eighty-five, eighty-nine, ninety-seven}
In[206]:=
      Select[TextWords[WikipediaData["words"]], StringLength[#] > 15 &]
Out[206]=
      {yibi-jarran-gabun, yibi-gabun-jarran, orthographically,
       multiple-morpheme, Proto-Indo-European, 978-0-08-044854-1}
In[207]:=
      NestList[If[EvenQ[#], \frac{\pi}{2}, 3 # + 1] &, 1000, 200]
Out[207]=
      {1000, 500, 250, 125, 376, 188, 94, 47, 142, 71, 214, 107, 322, 161, 484, 242, 121, 364,
       182, 91, 274, 137, 412, 206, 103, 310, 155, 466, 233, 700, 350, 175, 526, 263,
       790, 395, 1186, 593, 1780, 890, 445, 1336, 668, 334, 167, 502, 251, 754, 377,
       1132, 566, 283, 850, 425, 1276, 638, 319, 958, 479, 1438, 719, 2158, 1079, 3238,
       1619, 4858, 2429, 7288, 3644, 1822, 911, 2734, 1367, 4102, 2051, 6154, 3077,
       9232, 4616, 2308, 1154, 577, 1732, 866, 433, 1300, 650, 325, 976, 488, 244, 122,
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61, 184, 92, 46, 23, 70, 35, 106, 53, 160, 80, 40, 20, 10, 5, 16, 8, 4, 2, 1, 4, 2} In[208]:=

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WordCloud[Select[TextWords[WikipediaData["computers"]], StringLength[#] == 5 &]]
Out[208]=
                       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
               equalallow
                                               2000seight
        carry
In[209]:=
      Select[WordList[], StringLength[#] ≥
           3 && StringTake[#, 3] == StringTake[StringReverse[#], 3] && # # StringReverse[#] &]
Out[209]=
      {despised, detected, detested, drainboard,
       foolproof, lackadaisical, marjoram, revolver}
In[210]:=
      Select[WordList[], Total[LetterNumber[#]] == 100 && StringLength[#] == 10 &]
Out[210]=
      {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}
```