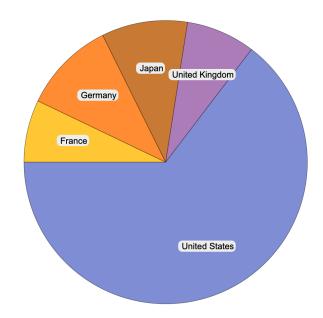
## Tahm — PS15

## Chapter 37

```
In[250]:=
       If[EvenQ[#], Style[#, Background → Yellow], Style[#, Background → LightGray]] & /@
        Range [100]
Out[250]=
       {1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22,
        23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42,
        43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62,
        63, <mark>64</mark>, 65, <mark>66</mark>, 67, <mark>68</mark>, 69, <mark>70</mark>, 71, <mark>72</mark>, 73, <mark>74</mark>, 75, <mark>76</mark>, 77, <mark>78</mark>, 79, <mark>80</mark>, 81,
        82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100}
In[251]:=
      If[PrimeQ[#], Framed[#], #] & /@ Range[100]
Out[251]=
       23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42,
        43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61,
       62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80,
       81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
```

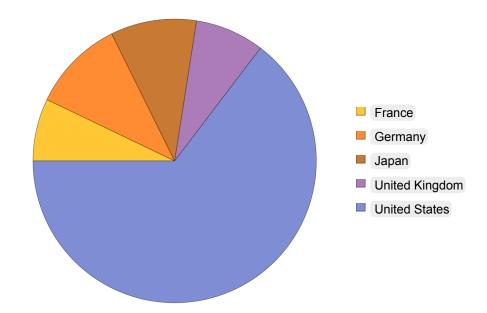
In[252]:= GraphicsGrid[Table[Graphics[Style[Disk[], RandomColor[]]]], 3, 6]] Out[252]= In[253]:= PieChart Group of 5 COUNTRIES GDP 

nominal , ChartLabels → EntityList Group of 5 COUNTRIES Out[253]=



In this problem and the next one, you used the EntityGroup twice. There is a way to get the labels and legends without doing that. In[254]:= PieChart ☐ Group of 5 COUNTRIES ☐ GDP ☐ nominal ☐, 

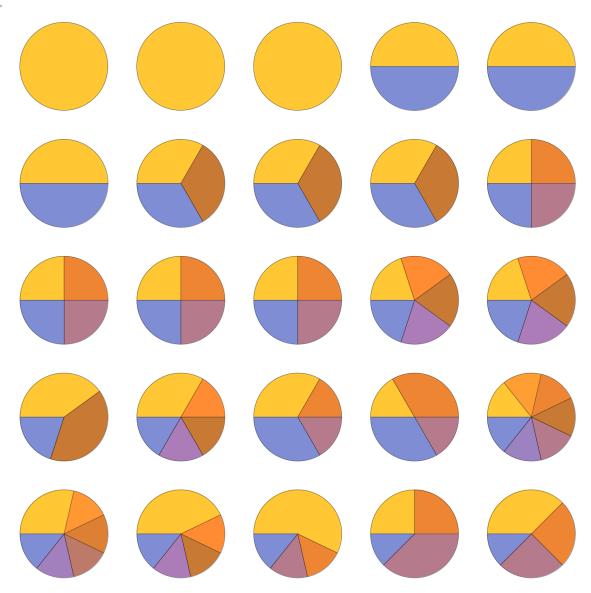
Out[254]=



In[255]:=

## GraphicsGrid[ Partition[PieChart[Counts[IntegerDigits[#]]] & /@ Table[2^n, {n, 25}], 5]]

Out[255]=



In[256]:=

In[257]:= WordCloud[WikipediaData[#]] & /@ EntityList ☐ Group of 5 COUNTRIES Out[257]= Early freeRights divided20th Music foreignregions language knownYears influentialNuclearimmigrantsmilltarrymodern lowsocialleadingmarketCentralpublicSea 1990TreatyFranceFriedrichmodernforeign EasternBundestagEconomicmilitaryWar<sup>2</sup>017 Africa member AccordingDemocraticLanguages<sub>known</sub> nt Revoluti Publicountriespopulationestablishedstate political Empire Metropolitan Republicoppular territory government Franks states Paris member According Democratic Languages, tribes billion Northeast National Empire western 203 Prussia number Pepublic Germany's Berlin system, 203 number Pepublic Germany's Germany G rateWest stateEuropean country
countriesEurOpeWorldinternationalpopula
Memberslargest population developmentpolitical
Park y power include government
Party power include government
Court Germanic established Following health 1949
NATO language energy Roman Union including south
early Soviet Austria people 2019 2022 law million Century economic more union Europe World National Period 19th led power Architecturel argest Country world's New Italyeducation Secondoverseas important majortotal territories Western religious economy United highest Nations culture North region IrishHousepopularministercrown 2024 islandEuropeanindependenceCouncilRoyal John Parliamentaryincludinghealthcare2023 Newdevolved England politicatotal development Language Conomiclargest Language Countries, W. 20202021GDPPublic2022rateDiet
ighcontrolEducationcountriesculturalmainlocalnorth incomepublic Unioneconomy SupremeColoniesoffic industrymilitary immigrants significantSouthe CaliforniaEuropean international Washington territories World's countries districtions highcontrolEducationcountries agriculturalearly Chinesedeveloped united highestintroduced territories World's countries district developed Meritories political talpower known known known systemlar known k Connesedeveloped United highest introduced Domestic Deginning Constitution including people military government islands known Modern include a panes by Modern including a pan areaeconomiclargest TIRIA development countries user publiclanguage localParliament reland Scottish led London power with the column countries are countries user countries country Wales at Northern War Britain Act Northern Miles English King Communic States population population nited Great No. schoolpopulation Japan's Chinatotal systemWorld million leadin highest century British include islands welsh, century British include islands include islands welsh includes include islands included includes a constraint of the property o systemworld's National period million percent century country emperor Security Spanish World national Climate popular environmental largest culture Indian in Climate popular environmental argest culture imperial popular environmental argest culture 2016 Pacific Buddhismeconomic/Western number official 2018 Asianstate sectors pace beganyears used fights

## Chapter 38

```
In[258]:=
       Module[\{x = Range[10]\}, x^2 + x]
Out[258]=
       \{2, 6, 12, 20, 30, 42, 56, 72, 90, 110\}
In[259]:=
      Module[{x = Table[RandomInteger[100], 10]}, Column[{x, Sort[x], Max[x], Total[x]}]]
Out[259]=
       {46, 92, 46, 84, 73, 7, 40, 67, 58, 57}
       {7, 40, 46, 46, 57, 58, 67, 73, 84, 92}
       92
       570
```

```
In[260]:=
       Module \{x = \{giraffe \text{ SPECIES SPECIFICATION } | image \}\}
         ImageCollage[{x, Blur[x], EdgeDetect[x], ColorNegate[x]}]
```

Out[260]=

In[261]:= Module[{r = Range[10]}, ListLinePlot[Join[r, Reverse[r], r, Reverse[r]]]]

Out[261]= 10 2

In[262]:= Module[ $\{x = Range[10]\}, \{x + 1, x - 1, Reverse[x]\}$ ]

Out[262]=  $\{\{2, 3, 4, 5, 6, 7, 8, 9, 10, 11\},\$  $\{0, 1, 2, 3, 4, 5, 6, 7, 8, 9\}, \{10, 9, 8, 7, 6, 5, 4, 3, 2, 1\}\}$ 

In[263]:= NestList[Mod[17 # + 2, 11] &, 10, 20]

Out[263]=  $\{10, 7, 0, 2, 3, 9, 1, 8, 6, 5, 10, 7, 0, 2, 3, 9, 1, 8, 6, 5, 10\}$ 

In[264]:=

```
In[265]:=
      Table[StringJoin[
         Module[{x, y},
          x = Characters["aeiou"];
          y = Complement[Alphabet[], x];
          RandomChoice /@\{x, y, x, y, x\}]], 10]
Out[265]=
      {uriwu, usaqu, ejave, ujapo, ocane, elobi, opiqu, ejehe, egevu, atoyu}
```