

# 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, 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[251]:=

```
If[PrimeQ[#], Framed[#], #] & /@ Range[100]
```

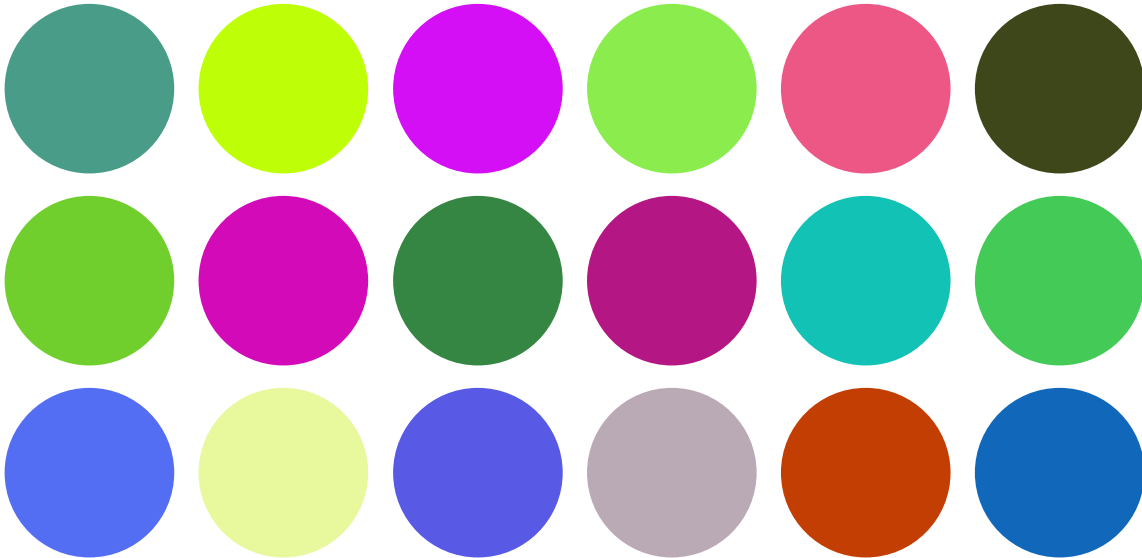
Out[251]=

```
{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, 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]]
```

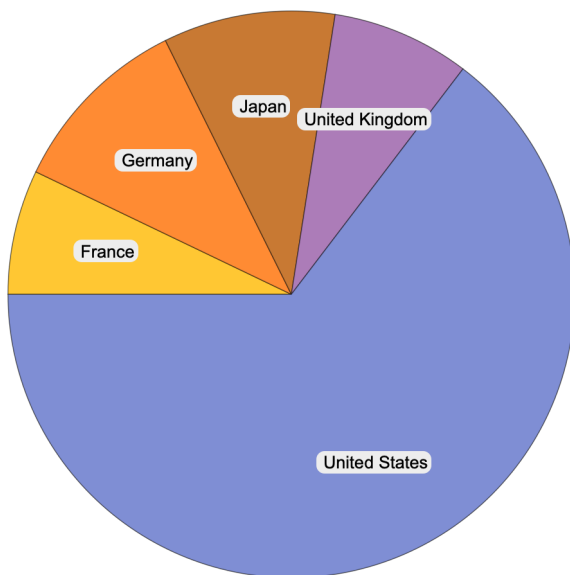
Out[252]=



In[253]:=

```
PieChart[EntityGroup[COUNTRIES, GDP, nominal],
ChartLabels -> EntityList[EntityGroup[COUNTRIES]]]
```

Out[253]=

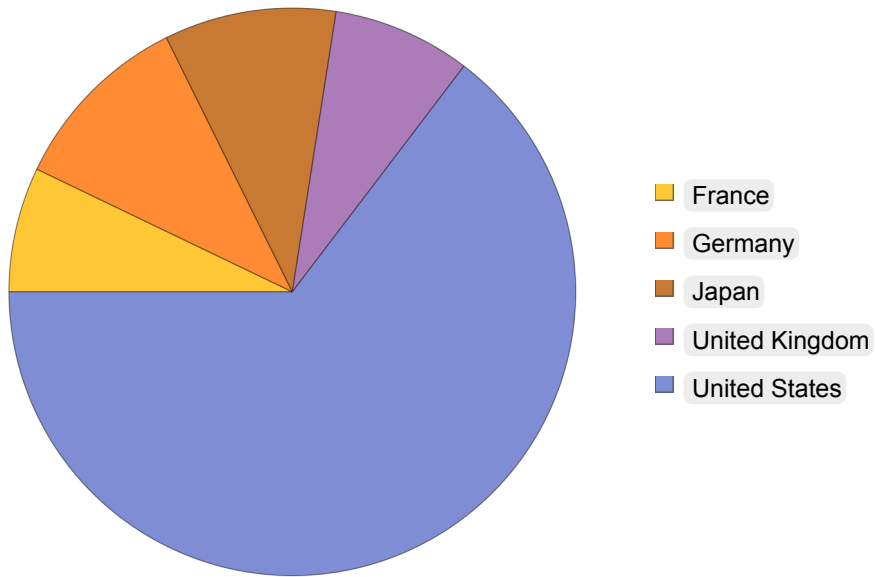


In this problem and the next one, you used the EntityGroup twice. There is a way to get the labels and legends without doing that.

In[254]:=

```
PieChart[Group of 5 COUNTRIES [GDP + nominal],  
ChartLegends → EntityList[Group of 5 COUNTRIES]]
```

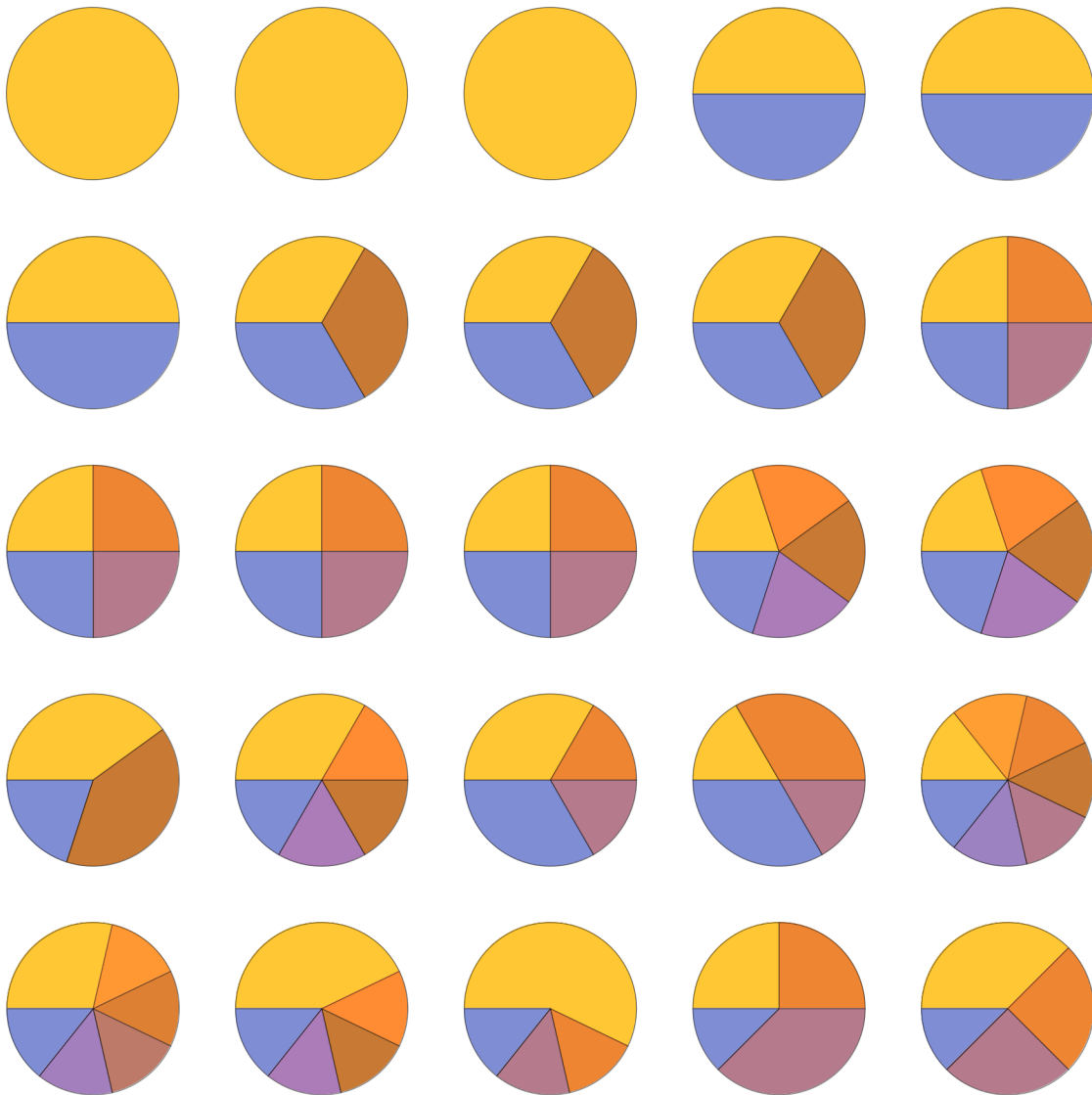
Out[254]=



In[255]:=


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

Out[255]:=

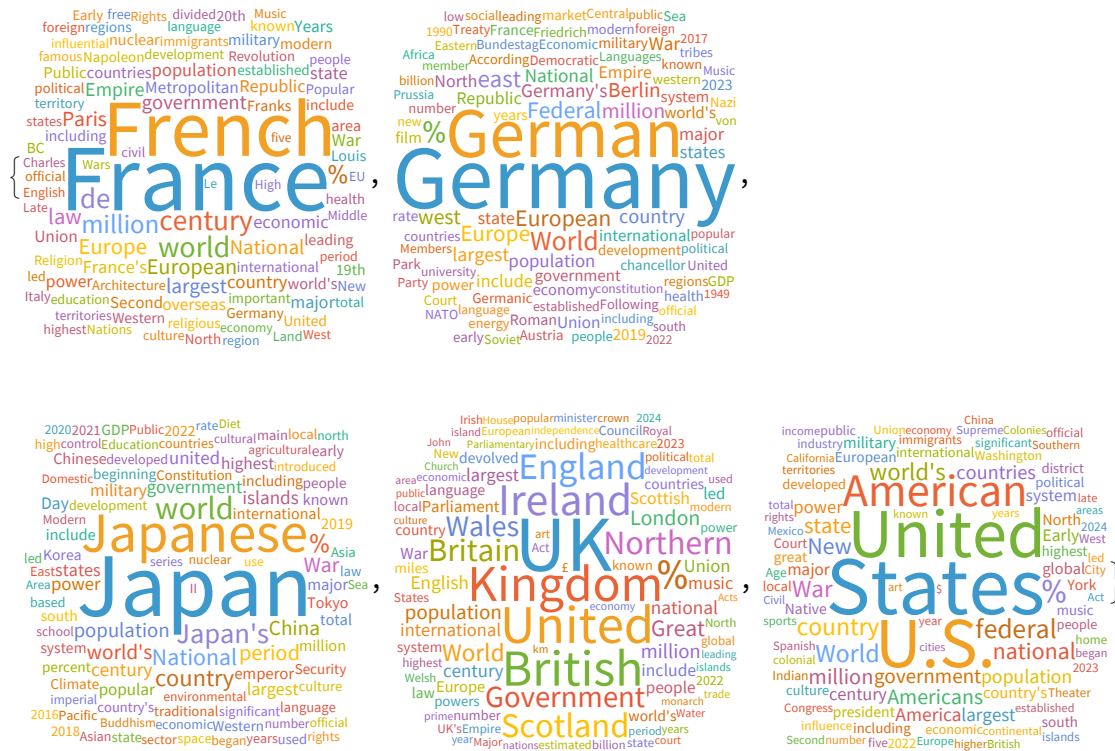


In[256]:=

In[257]:=

WordCloud[WikipediaData[#]] & /@ EntityList[ Group of 5 COUNTRIES]

Out[257]=



## 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]}]]

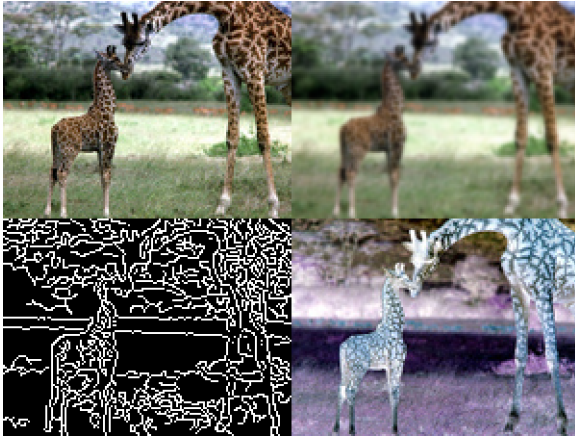
Out[259]=

{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 SPECIES SPECIFICATION [image]},
  ImageCollage[{x, Blur[x], EdgeDetect[x], ColorNegate[x]}]]
```

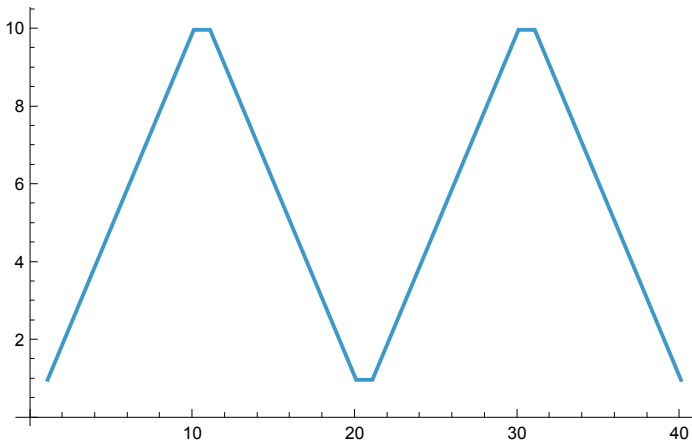
Out[260]=



In[261]:=

```
Module[{r = Range[10]}, ListLinePlot[Join[r, Reverse[r], r, Reverse[r]]]]
```

Out[261]=



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}
```