Eli — PS 15 — 2025-04-01

In[318]:=

```
(*37.1*)Style[#, Background → If[EvenQ[#] == True, Yellow, LightGray]] & /@ Range[100]
```

Out[318]=

{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[319]:=

```
(*37.2*)If[PrimeQ[#] == True, Framed[#], #] & /@ Range[100]
```

Out[319]=

{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[320]:=

```
(*37.3*)
If[PrimeQ[#] == True, Labeled[Framed[#], Style[#, LightGray]], #] & /@ Range[100]
```

Out[320]=
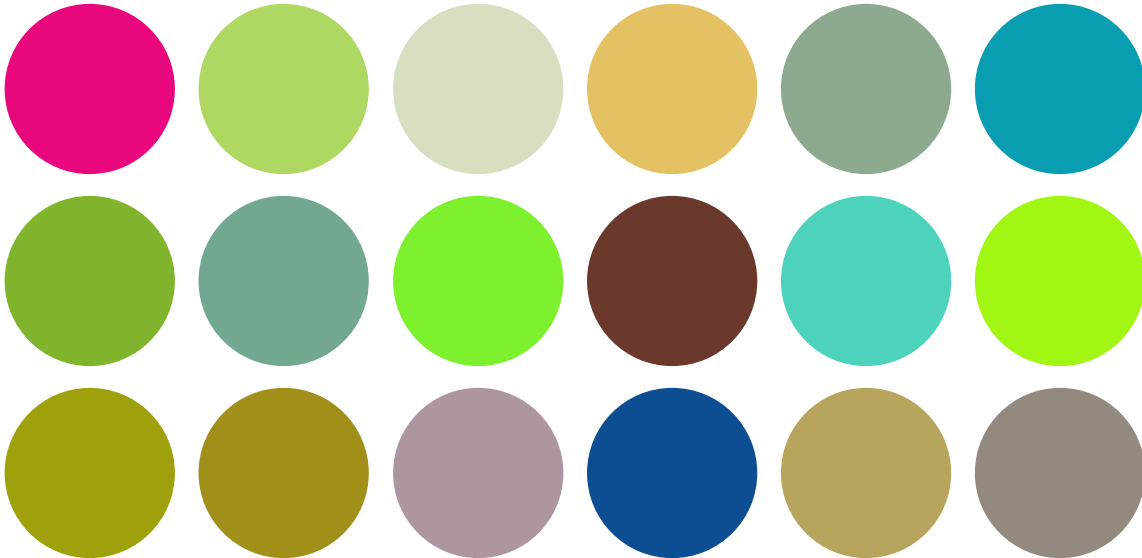
{1, 2 , 3 , 4, 5 , 6, 7 , 8, 9, 10, 11 , 12, 13 , 14, 15, 16, 17 ,
2   3   5   7   11   13   17

18, 19 , 20, 21, 22, 23 , 24, 25, 26, 27, 28, 29 , 30, 31 , 32, 33,
19   23   29   31

34, 35, 36, 37 , 38, 39, 40, 41 , 42, 43 , 44, 45, 46, 47 , 48, 49, 50,
37   41   43   47

51, 52, 53 , 54, 55, 56, 57, 58, 59 , 60, 61 , 62, 63, 64, 65, 66, 67 ,
53   59   61   67

68, 69, 70, 71 , 72, 73 , 74, 75, 76, 77, 78, 79 , 80, 81, 82, 83 ,
71   73   79   83

84, 85, 86, 87, 88, 89 , 90, 91, 92, 93, 94, 95, 96, 97 , 98, 99, 100}
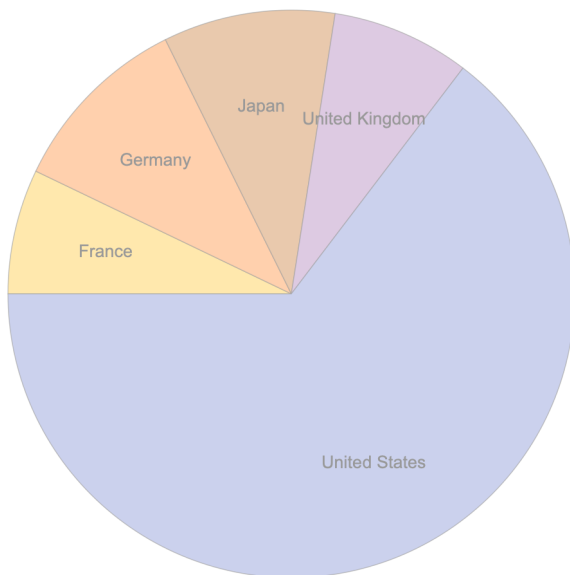89   97

In[321]:=

```
(*37.4*)GraphicsGrid[Table[Graphics[Style[Disk[], RandomColor[]]], 3, 6]]
```

Out[321]=


```
(*37.5*)PieChart[Table[Labeled[EntityList[ ▦ Group of 5 COUNTRIES ⋯ ✓ ["GDP"]]〚n〛,
    EntityList[ ▦ Group of 5 COUNTRIES ⋯ ✓ ["Name"]]〚n〛], {n, 5}]]
```
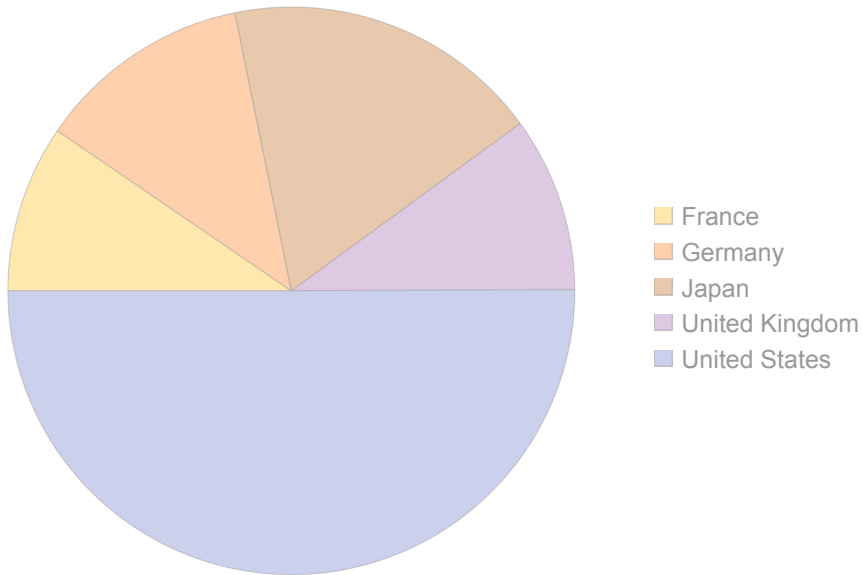
Out[322]=

```
(*37.6*)
PieChart[Table[Legended[EntityList[▦ Group of 5 COUNTRIES ⋯ ✓ ["Population"]]⟦n⟧,
    EntityList[▦ Group of 5 COUNTRIES ⋯ ✓ ["Name"]]⟦n⟧], {n, 5}]]
```

Out[323]=

France
Germany
Japan
United Kingdom
United States
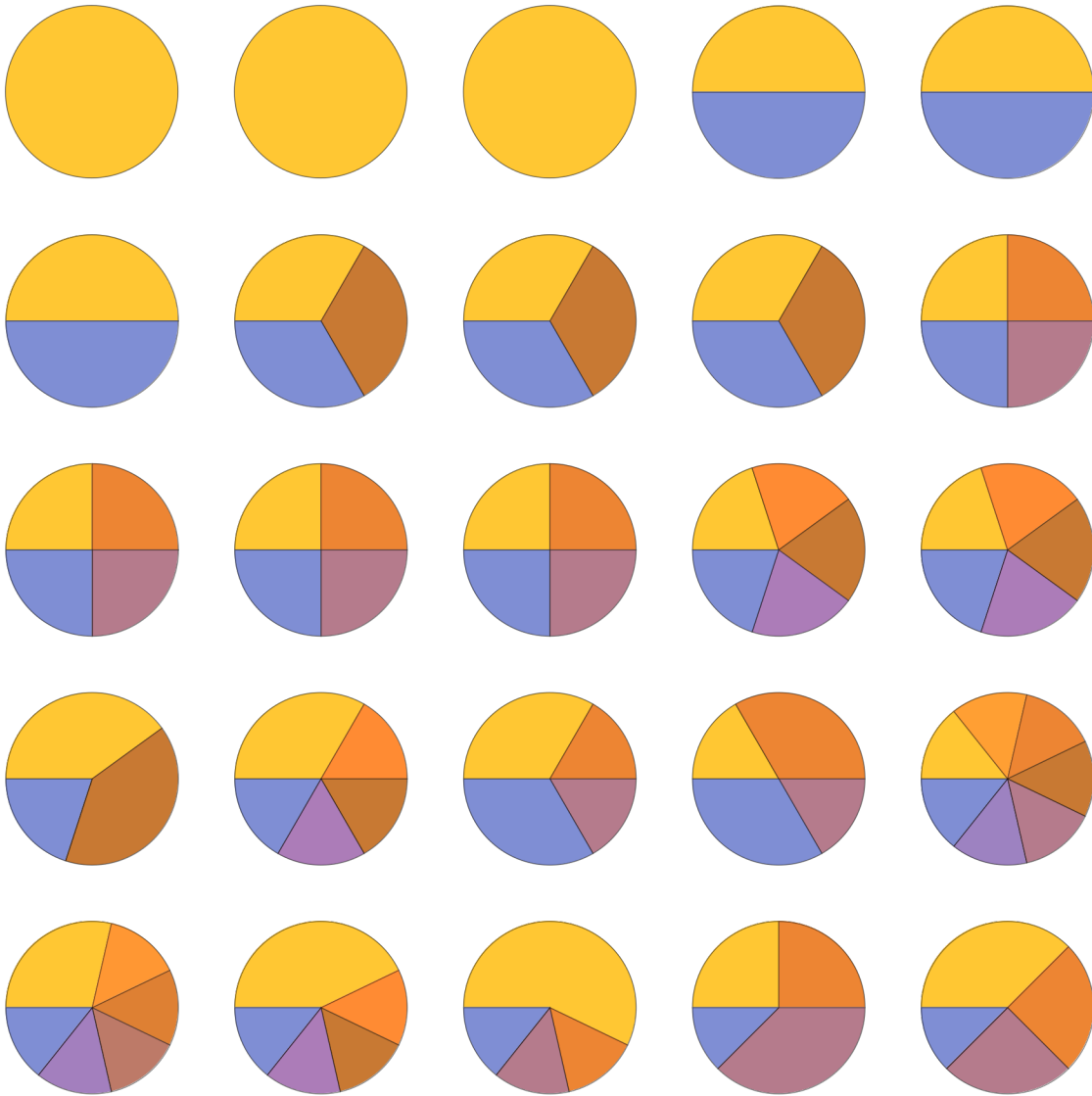
In[324]:=
```
(*37.7*)GraphicsGrid[
 Partition[Table[PieChart[Counts[IntegerDigits[2^n]]], {n, 25}], 5]]
```
Out[324]=

In[325]:=
```
(*38.1*)Module[{x = Range[10]}, x^2 + x]
```
Out[325]=
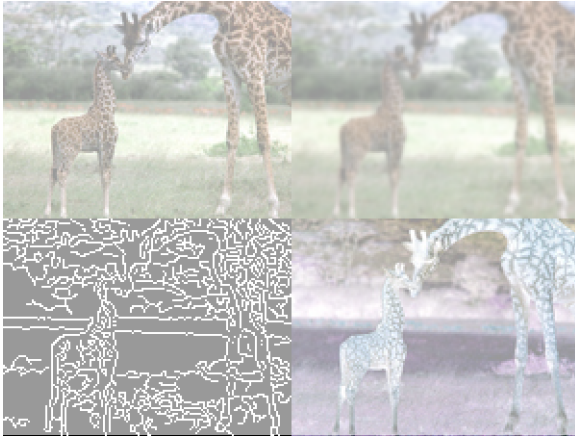```
{2, 6, 12, 20, 30, 42, 56, 72, 90, 110}
```

In[326]:=
```
(*38.2*)Column[Module[{x = RandomInteger[100, 10]}, {x, Sort[x], Max[x], Total[x]}]]
```
Out[326]=
```
{19, 53, 31, 20, 15, 53, 99, 75, 60, 23}
{15, 19, 20, 23, 31, 53, 53, 60, 75, 99}
99
448
```

```
(*38.3*)ImageCollage[Module[{x = [giraffe SPECIES SPECIFICATION ••• ✓]["Image"]},
  {x, Blur[x], EdgeDetect[x], ColorNegate[x]}]]
```
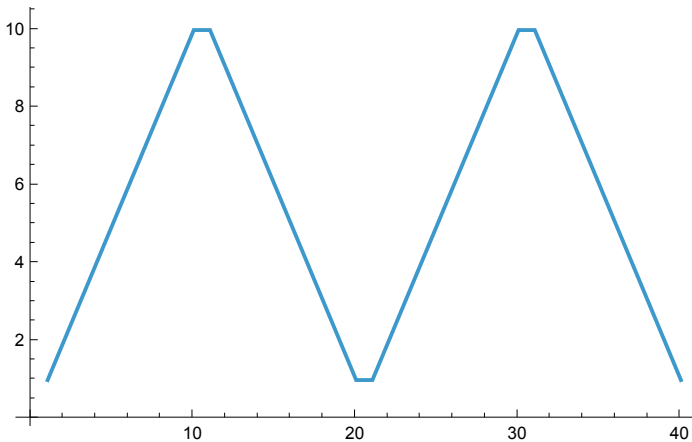
Out[327]=



In[328]:=

```
(*38.4*)Module[{r = Range[10]}, ListLinePlot[Join[r, Reverse[r], r, Reverse[r]]]]
```

Out[328]=

In[329]:=

```
(*38.5*)Module[{x = Range[10]}, {x + 1, x - 1, Reverse[x]}]
```

Out[329]=

```
{{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[330]:=

```
(*38.6*)NestList[Mod[17 # + 2, 11] &, 10, 20]
```

Out[330]=

```
{10, 7, 0, 2, 3, 9, 1, 8, 6, 5, 10, 7, 0, 2, 3, 9, 1, 8, 6, 5, 10}
```

In[331]:=

```
(*38.7*)Module[{vowel = {a, e, i, o, u},
  consonant = Complement[Alphabet[], {"a", "e", "i", "o", "u"}]},
 Table[Riffle[RandomSample[consonant, 3], RandomSample[vowel, 2]], 10]]
```

Out[331]=

```
{{z, a, g, i, c}, {l, u, d, i, p}, {g, u, h, a, m}, {t, u, s, a, n}, {l, o, g, u, v},
 {h, o, z, i, v}, {z, e, t, o, x}, {t, i, r, o, z}, {c, u, q, a, n}, {j, a, r, o, y}}
```