

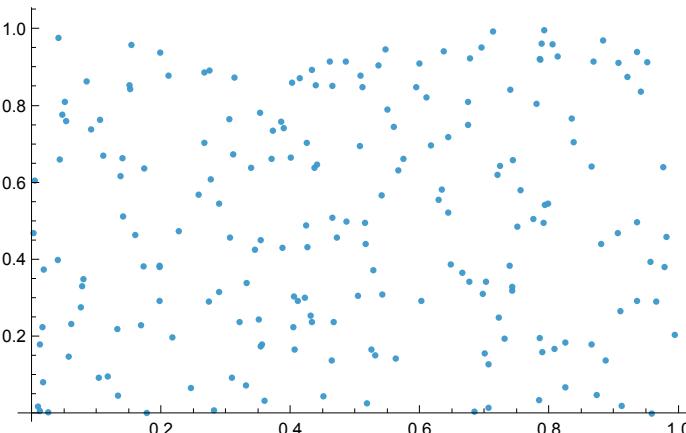
# Walker's Problem Set 9

## Section 23

```
In[113]:= N[Sqrt[2], 500]
Out[113]= 1.4142135623730950488016887242096980785696718753769480731766797379907324784621070...
38850387534327641572735013846230912297024924836055850737212644121497099935831413...
22266592750559275579995050115278206057147010955997160597027453459686201472851741...
86408891986095523292304843087143214508397626036279952514079896872533965463318088...
29640620615258352395054745750287759961729835575220337531857011354374603408498847...
16038689997069900481503054402779031645424782306849293691862158057846311159666871...
30130156185689872372

In[114]:= Table[RandomReal[1], 10]
Out[114]= {0.276113, 0.966445, 0.838583, 0.964267,
0.795732, 0.0941256, 0.160806, 0.609735, 0.467064, 0.509511}

In[115]:= ListPlot[RandomReal[1, {200, 2}]]
Out[115]=
```



```
In[116]:= Graphics[Line[AnglePath[RandomReal[2 Pi, 1000]]]]
```

```
Out[116]=
```



```
In[117]:= Table[Mod[n^2, 10], {n, 0, 30}]
```

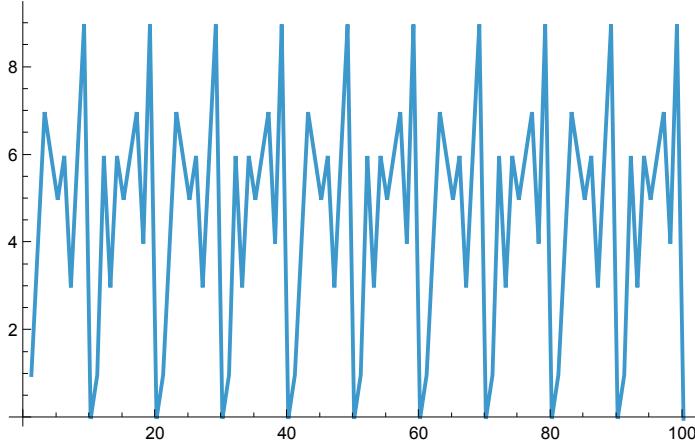
```
Out[117]=
```

```
{0, 1, 4, 9, 6, 5, 6, 9, 4, 1, 0, 1, 4, 9, 6, 5, 6, 9, 4, 1, 0, 1, 4, 9, 6, 5, 6, 9, 4, 1, 0}
```

```
In[118]:=
```

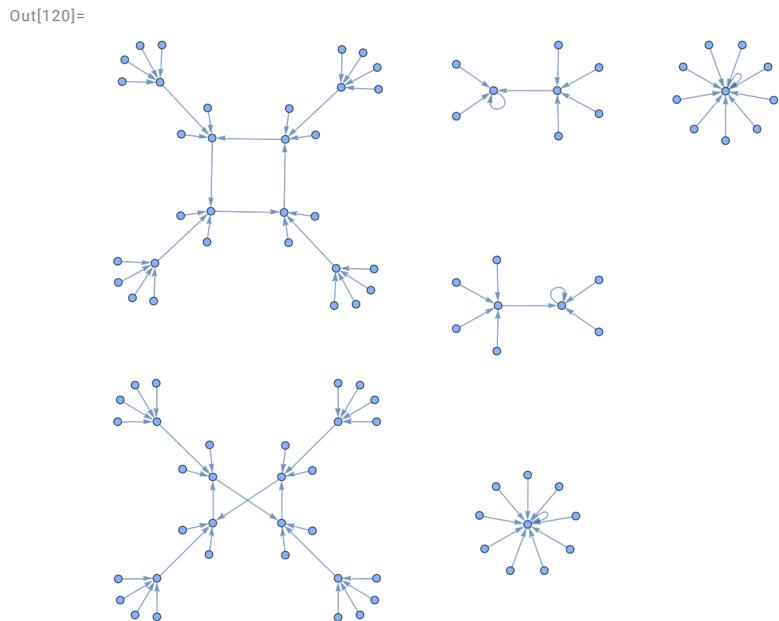
```
ListLinePlot[Table[Mod[n^n, 10], {n, 100}]]
```

```
Out[118]=
```

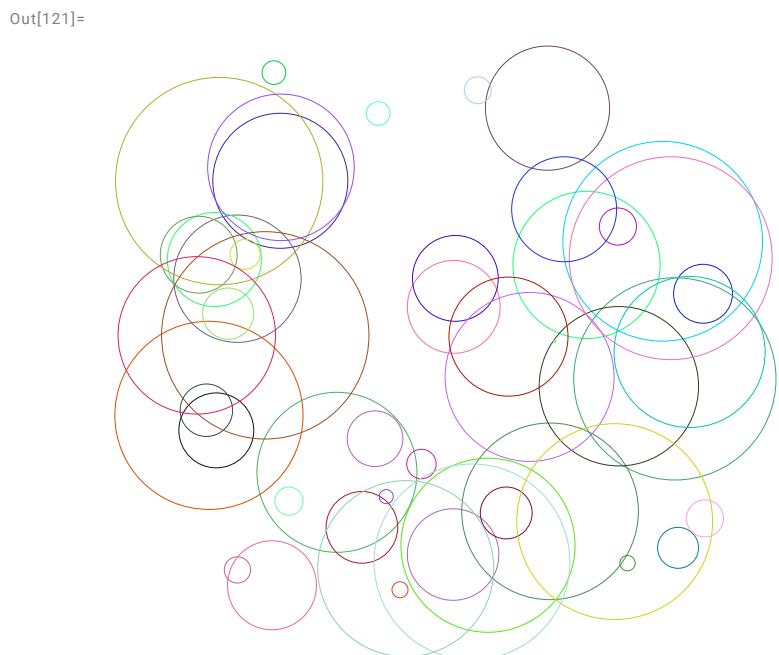


```
In[119]:= Round[Table[Pi^n, {n, 10}]]
Out[119]= {3, 10, 31, 97, 306, 961, 3020, 9489, 29809, 93648}
```

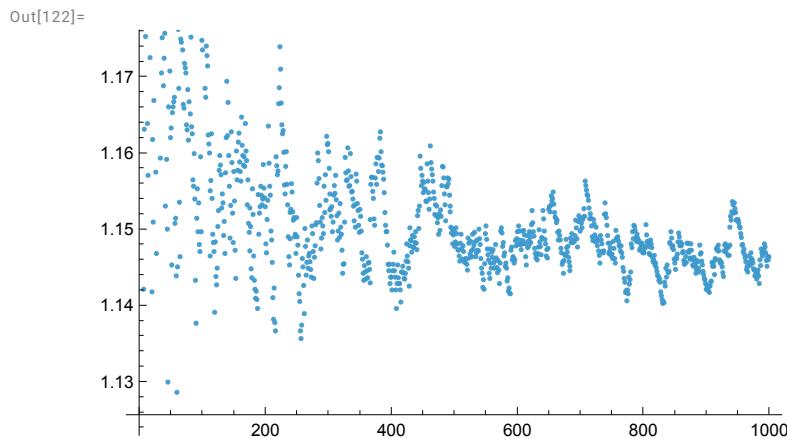
```
In[120]:= Graph[Table[n → Mod[n^2, 100], {n, 0, 99}]]
```



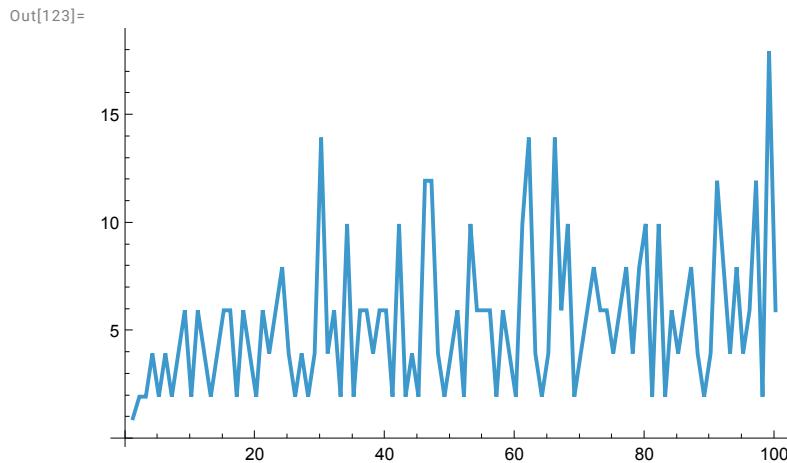
```
In[121]:= Graphics[Table[Style[
  Circle[{RandomReal[10], RandomReal[10]}, RandomReal[2]], RandomColor[], 50]]]
```



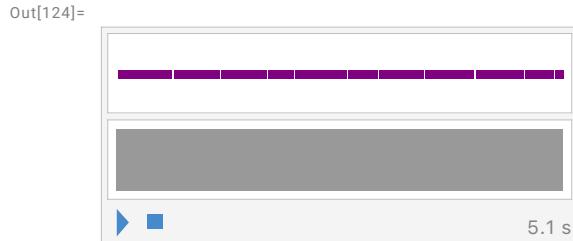
```
In[122]:= ListPlot[Table[Prime[n]/(n * Log[n]), {n, 2, 1000, 1}]]
```



```
In[123]:= ListLinePlot[Table[Prime[n + 1] - Prime[n], {n, 100}]]
```

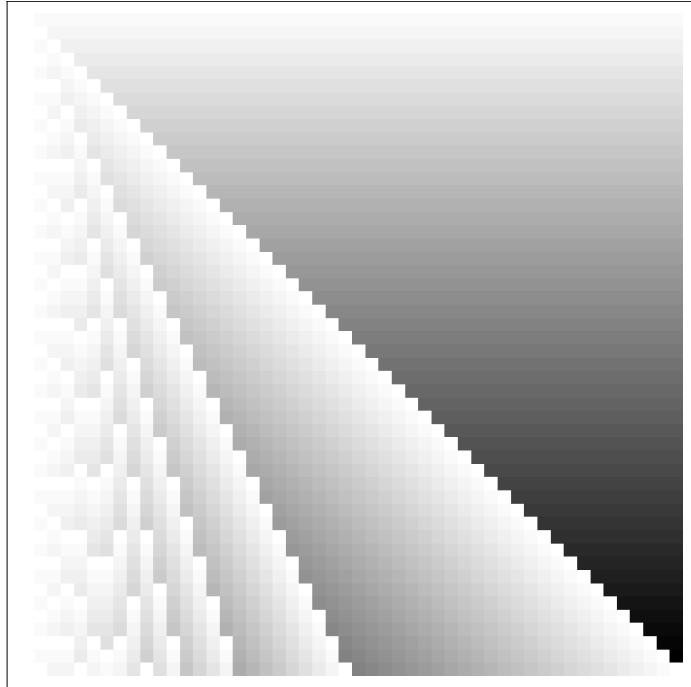


```
In[124]:= Sound[Table[SoundNote["C", RandomReal[0.5]], 20]]
```



```
In[125]:= ArrayPlot[Table[Mod[i, j], {i, 50}, {j, 50}]]
```

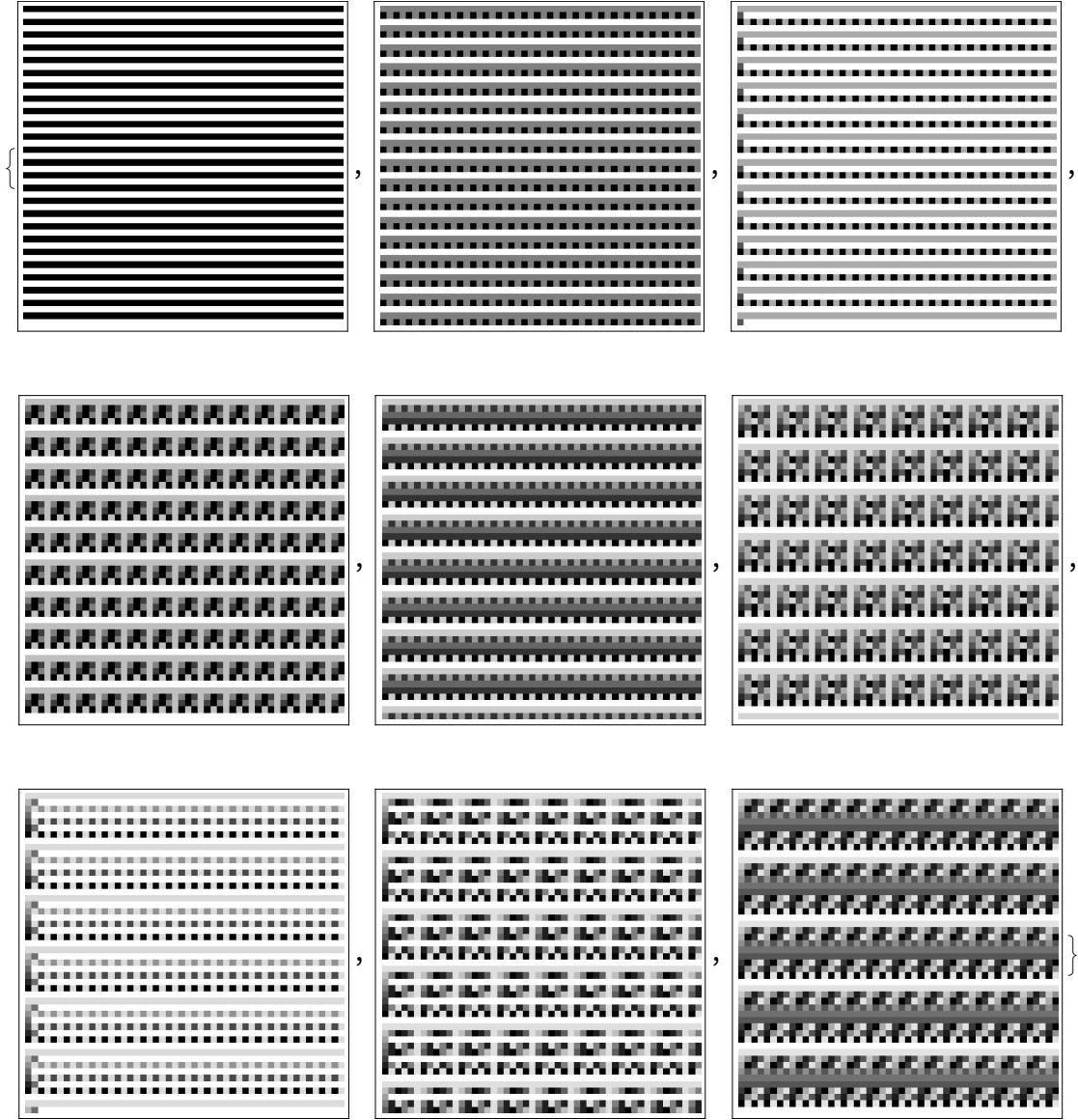
```
Out[125]=
```



In[126]:=

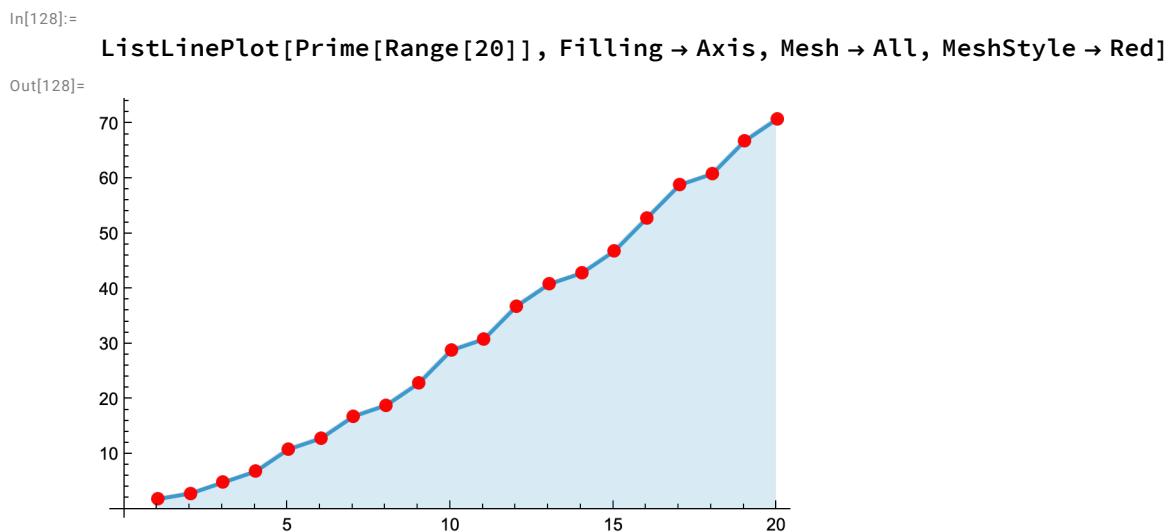
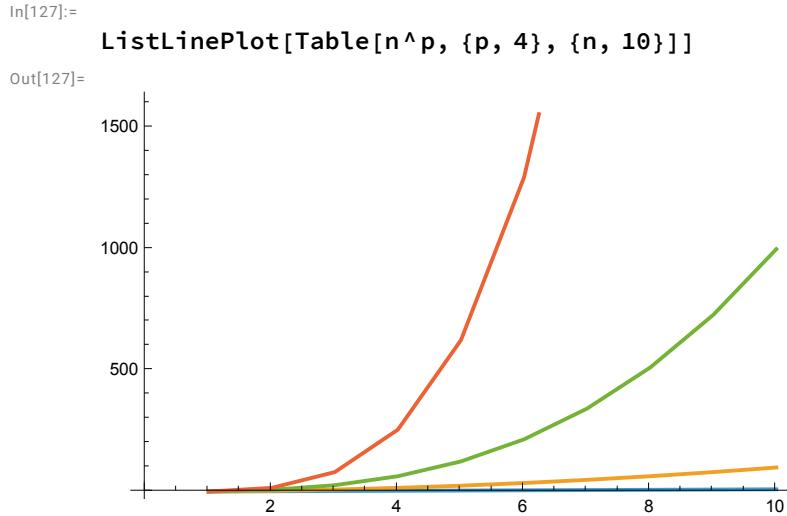
```
Table[ArrayPlot[Table[Mod[x^y, n], {x, 50}, {y, 50}]], {n, 2, 10}]
```

Out[126]=



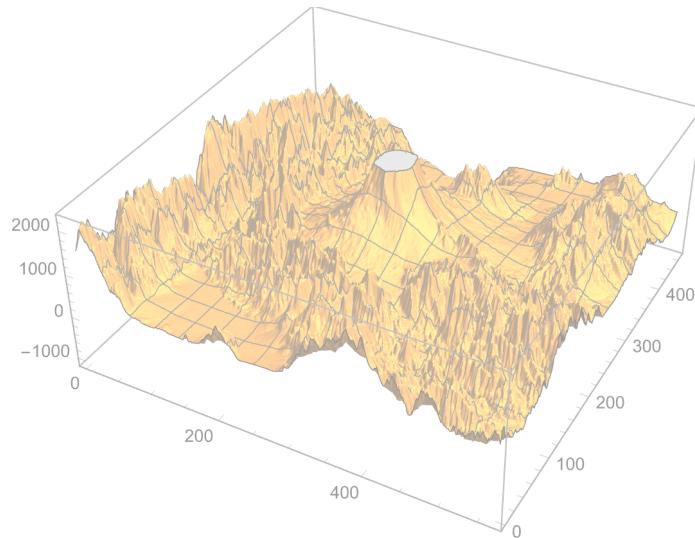
---

## Section 24



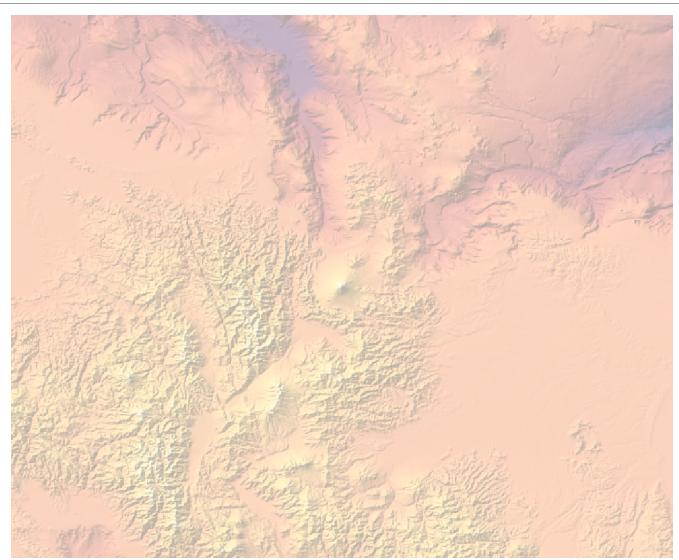
```
ListPlot3D[GeoElevationData[GeoDisk[Mount Fuji MOUNTAIN ..., ..., 20 mi ...]]]
```

Out[129]=

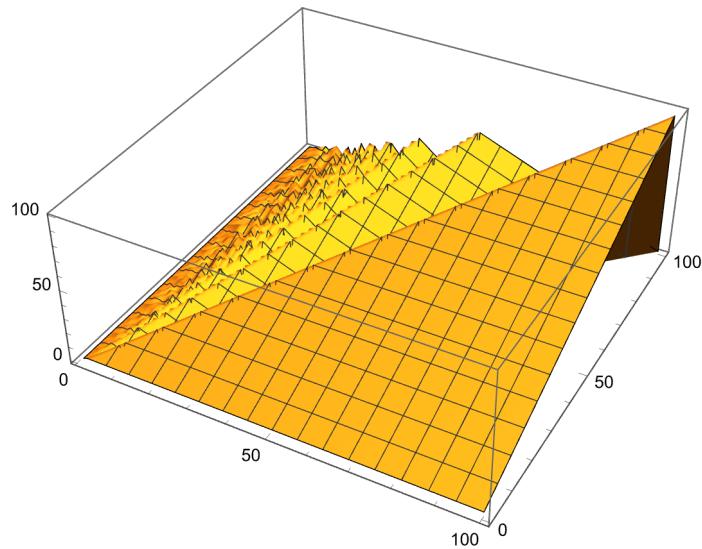


```
ReliefPlot[GeoElevationData[GeoDisk[Mount Fuji MOUNTAIN ..., ..., 100 mi ...]]]
```

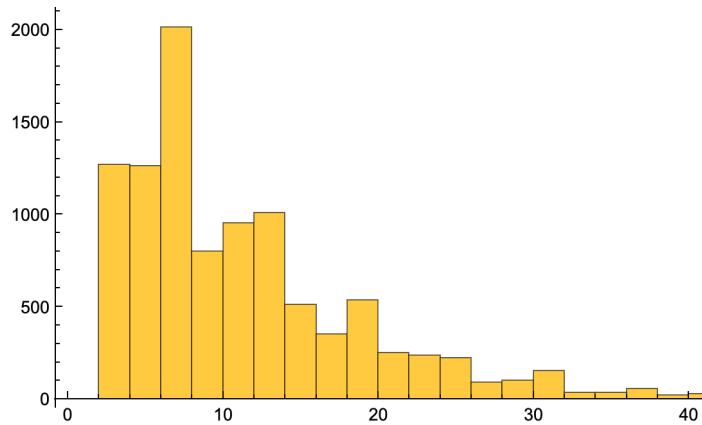
Out[130]=



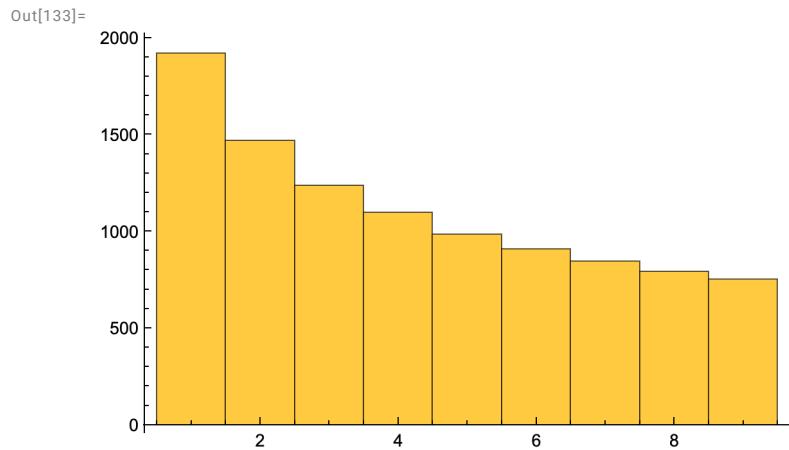
```
In[131]:= ListPlot3D[Table[Mod[i, j], {i, 100}, {j, 100}]]  
Out[131]=
```



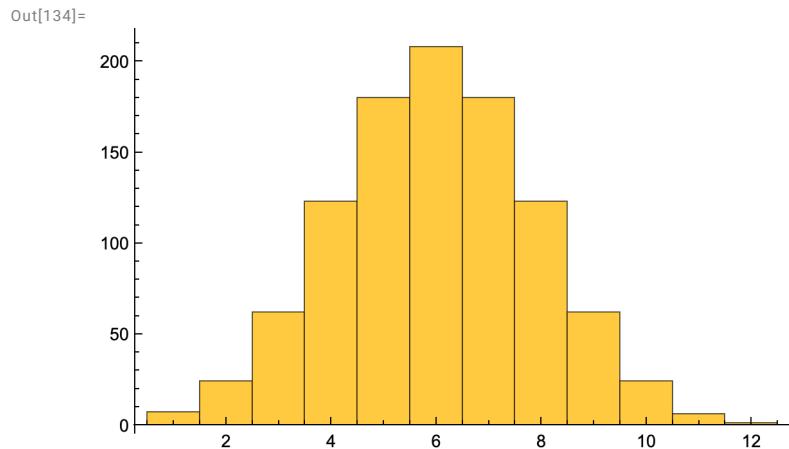
```
In[132]:= Histogram[Table[Prime[n + 1] - Prime[n], {n, 10 000}]]  
Out[132]=
```



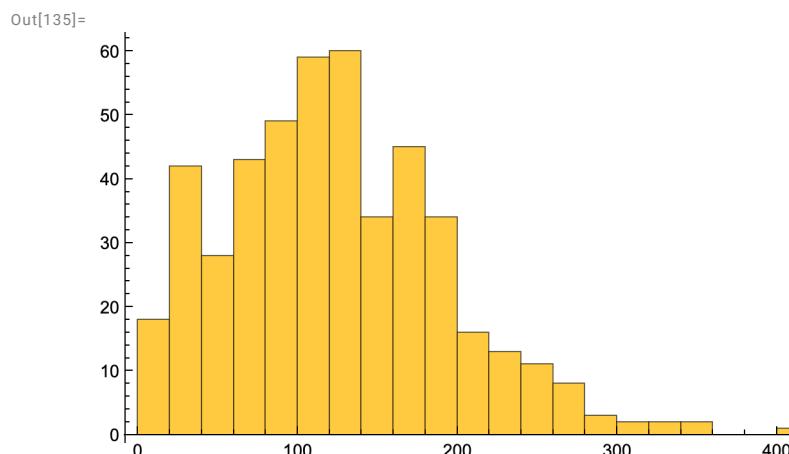
In[133]:= **Histogram[Table[IntegerDigits[n^2][1], {n, 10000}]]**



In[134]:= **Histogram[Table[StringLength[RomanNumeral[n]], {n, 1000}]]**



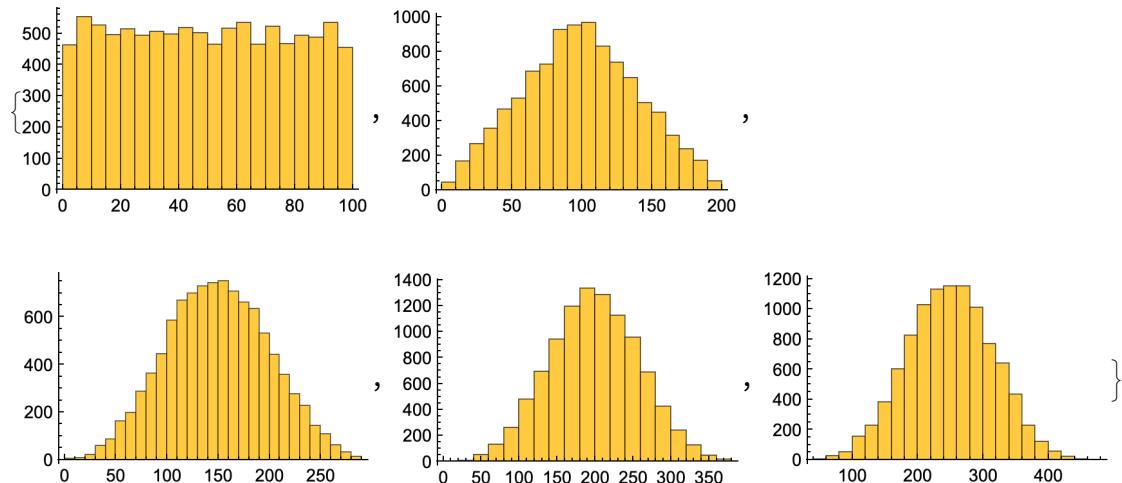
In[135]:= **Histogram[StringLength[TextSentences[WikipediaData["Computer"]]]]**



In[136]:=

```
Table[Histogram[Table[Total[RandomReal[100, n]], 10000]], {n, 5}]
```

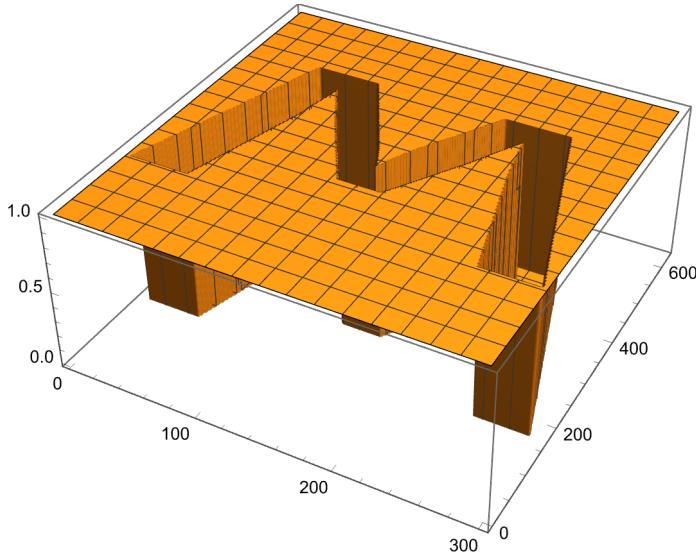
Out[136]=



In[137]:=

```
ListPlot3D[ImageData[Binarize[Rasterize[Style["W", 200]]]]]
```

Out[137]=



## Section 25

In[138]:=

```
f /@ Range[5]
```

Out[138]=

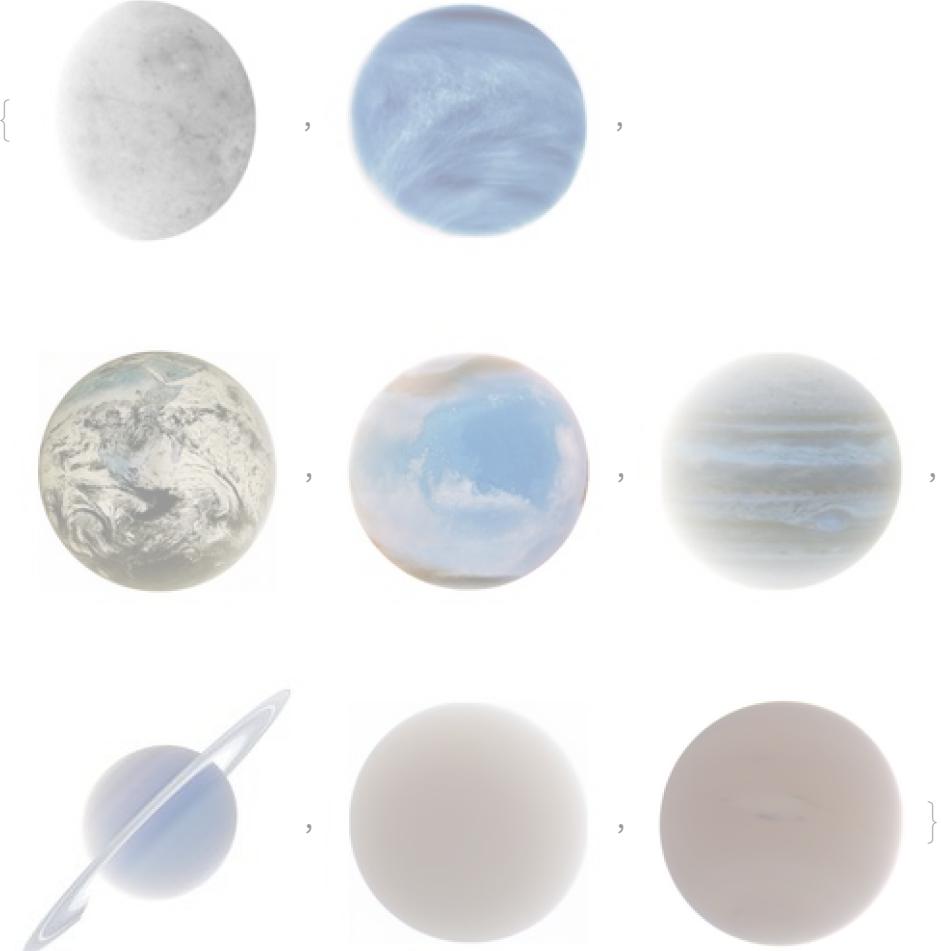
```
{f[1], f[2], f[3], f[4], f[5]}
```

```
In[139]:= f /@ g /@ Range[10]
Out[139]= {f[g[1]], f[g[2]], f[g[3]], f[g[4]],
f[g[5]], f[g[6]], f[g[7]], f[g[8]], f[g[9]], f[g[10]]}

In[140]:= x // d // b // b // a
Out[140]= a[b[b[d[x]]]]

In[141]:= Framed /@ Alphabet[]
Out[141]= {, , , , , , , , , , , , , , , , , , , , , , , , , }

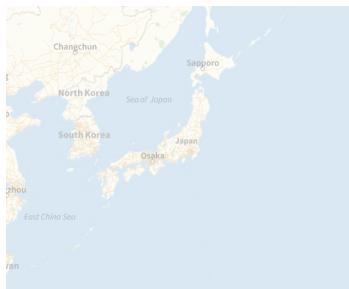
ColorNegate /@ EntityValue[, "Image"]

Out[142]= 
```

GeoGraphics /@ EntityList [ Group of 5 COUNTRIES ]

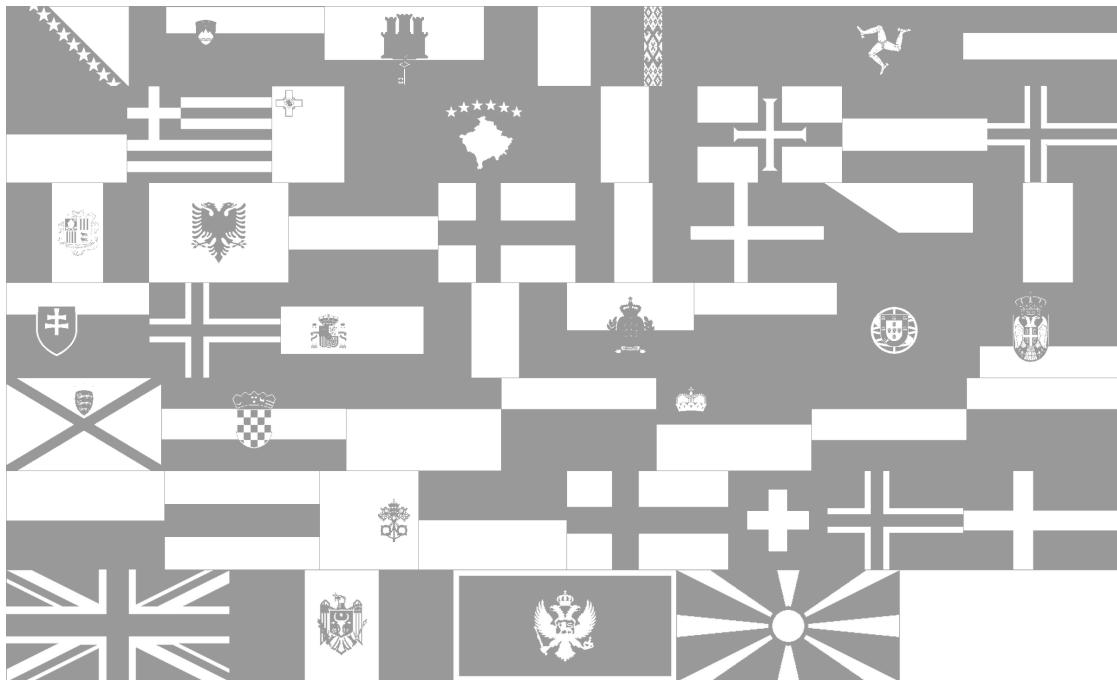
GeoServer: Unable to download one or more vector tiles.

Out[143]=



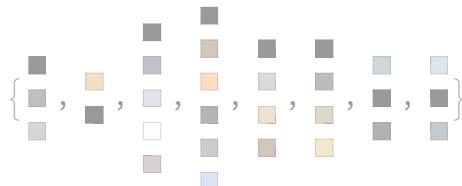
```
ImageCollage[Binarize /@ EntityValue[Europe GEOGRAPHIC REGION [countries] ... , "Flag"]]
```

Out[144]=



```
Column /@ DominantColors /@ EntityValue[planets PLANETS ... , "Image"]
```

Out[145]=



In[146]:=

```
Total[LetterNumber /@ Characters["wolfram"]]
```

Out[146]=

88