

Jeremy — PS 13 — 2025-03-25

EIWL3 Sections 33 and 34

```
In[69]:= Head[ListPlot[{1, 2}]]
```

```
Out[69]=
```

Graphics

```
In[70]:= Times @@ Range[100]
```

```
Out[70]=
```

```
93 326 215 443 944 152 681 699 238 856 266 700 490 715 968 264 381 621 468 592 963 895 217 599 993 \
229 915 608 941 463 976 156 518 286 253 697 920 827 223 758 251 185 210 916 864 000 000 000 000 \
000 000 000 000
```

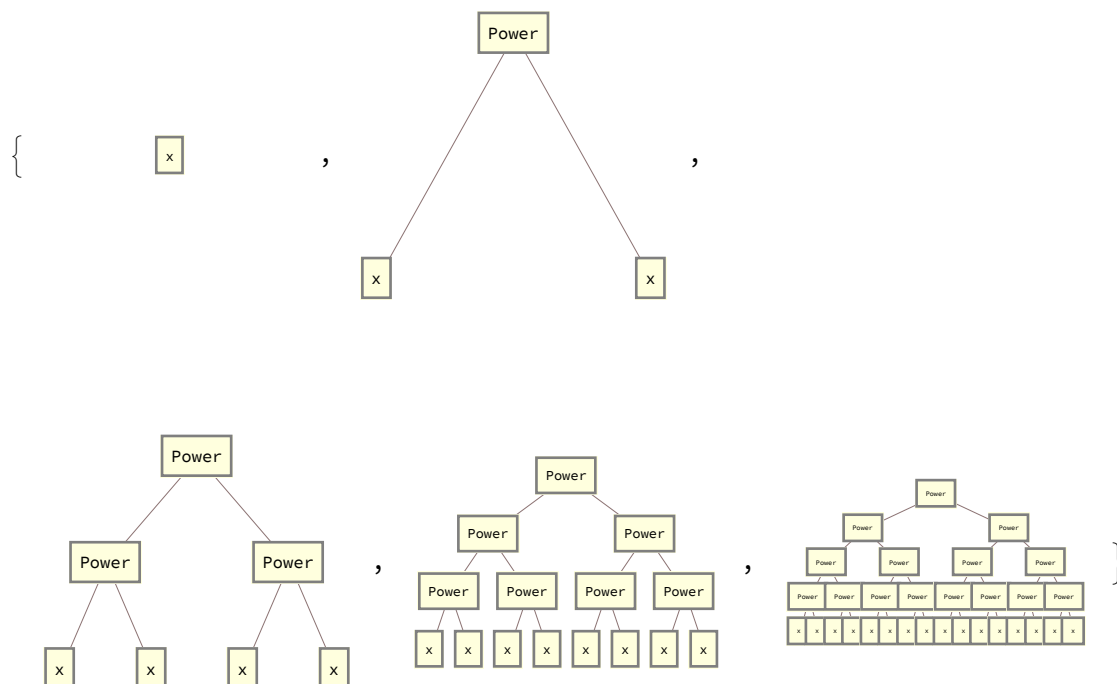
```
In[71]:= f @@@ Tuples[{a, b}, 2]
```

```
Out[71]=
```

```
{f[a, a], f[a, b], f[b, a], f[b, b]}
```

```
In[72]:= TreeForm /@ NestList[#^# &, x, 4]
```

```
Out[72]=
```



```
In[73]:= Union[Cases[Flatten[Table[i^2 / (j^2 + 1), {i, 20}, {j, 20}]], _Integer]]
```

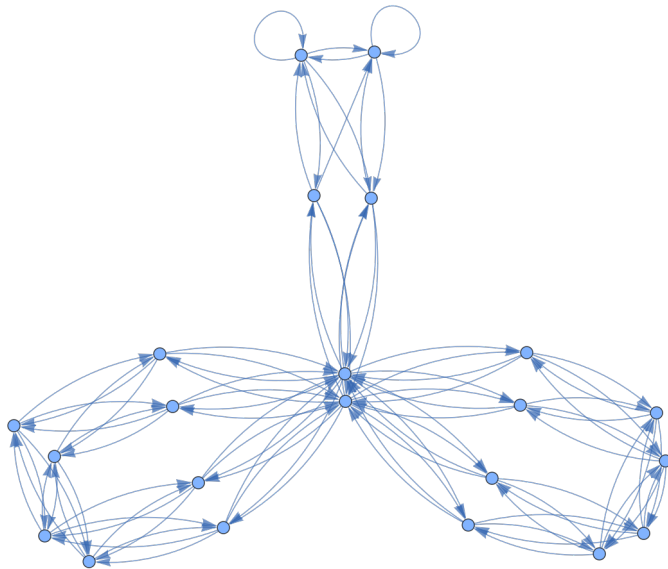
```
Out[73]=
```

```
{2, 5, 8, 10, 17, 18, 20, 32, 40, 45, 50, 72, 80, 98, 128, 162, 200}
```

Nice. You are the only one (besides me) that put Union in 33.5.

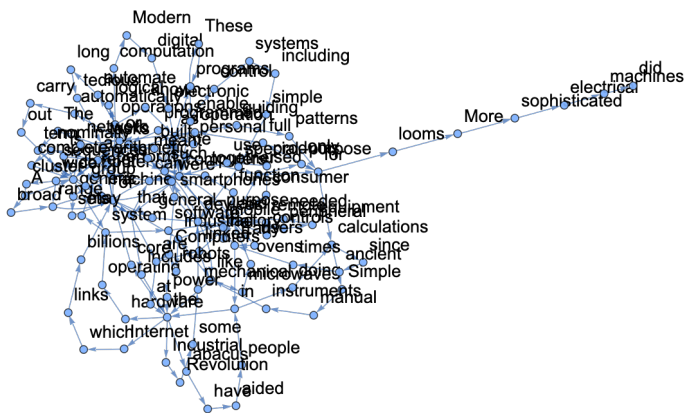
```
In[74]:= Graph[Rule @@@ Partition[Table[Mod[n^2 + n, 100], {n, 100}], 2, 1]]
```

```
Out[74]=
```



```
In[75]:= Graph[Rule @@@ Partition[Take[TextWords[WikipediaData["computers"]], 200], 2, 1],  
VertexLabels -> All]
```

```
Out[75]=
```



```
In[76]:= f @@@ {{1, 2}, {7, 2}, {5, 4}}
```

```
Out[76]=
```

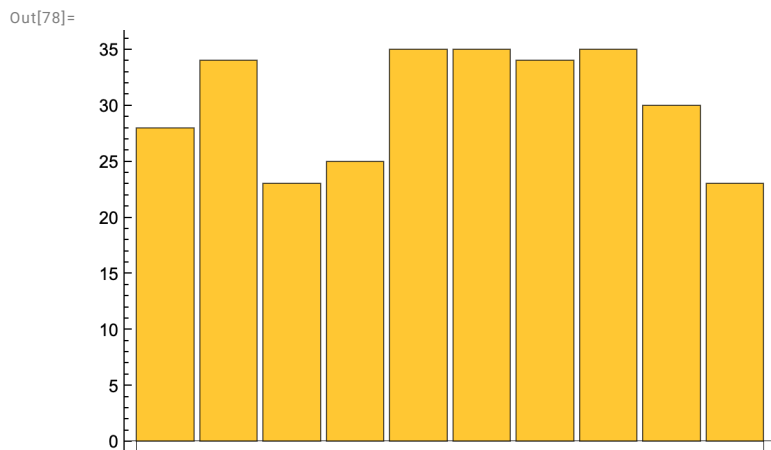
```
{f[1, 2], f[7, 2], f[5, 4]}
```

```
In[77]:= Values[KeySort[Counts[IntegerDigits[3^100]]]]
```

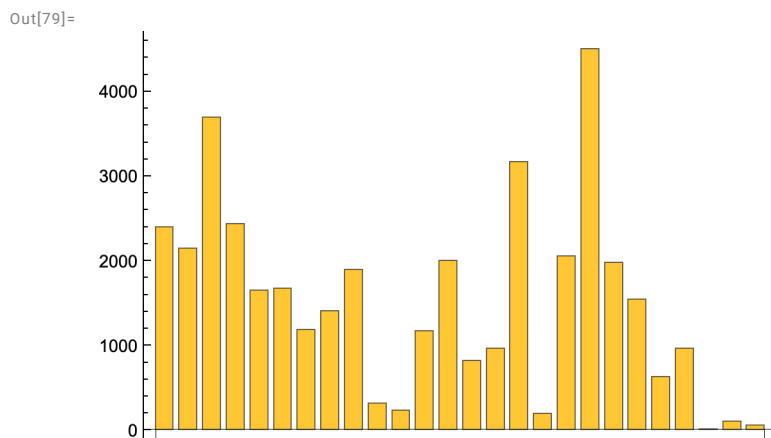
```
Out[77]=
```

```
{7, 9, 9, 5, 1, 5, 4, 7, 1}
```

```
In[78]:= BarChart[KeySort[Counts[IntegerDigits[2 ^ 1000]]]]
```



```
In[79]:= BarChart[Counts[First[ToUpperCase[Characters[#]]] & /@ WordList[]]]
```



```
In[80]:= TakeLargest[Counts[First[Characters[#]] & /@ WordList[]], 5]
```

Out[80]=

```
<| s → 4499, c → 3693, p → 3168, d → 2433, a → 2393 |>
```

```
In[81]:= #q / #u &@LetterCounts[WikipediaData["computers"]] // N
```

Out[81]=

```
0.0401274
```

```
In[82]:= TakeLargest[Counts[TextWords[ExampleData[{"Text", "AliceInWonderland"}]]], 5]
```

Out[82]=

```
<| the → 573, and → 319, a → 269, to → 248, she → 203 |>
```

```
In[83]:=
```