

Eli — PS 13 — 2025-03-25

EIWL3 Sections 33 and 34

Chapter 33

In[141]:=

```
(*33.1*) Head[ListPlot[{1, 2}]]
```

Out[141]=

```
Graphics
```

In[142]:=

```
(*33.2*) Times @@ Range[100]
```

Out[142]=

```
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[143]:=

```
(*33.3*) f @@@ Tuples[{a, b}, 2]
```

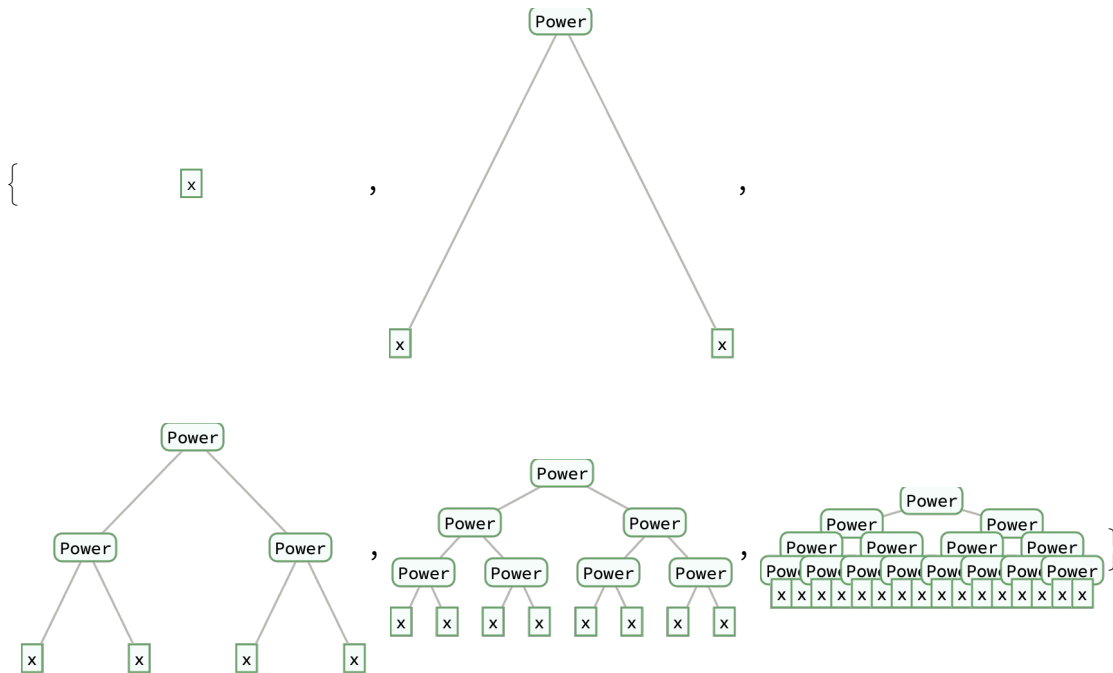
Out[143]=

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

In[144]:=

(*33.4*) ExpressionTree /@ NestList[$\#^{\#}$ &, x, 4]

Out[144]=



In[145]:=

(*33.5*) Union[Cases[Flatten[Table[$i^2 / (j^2 + 1)$], {i, 20}, {j, 20}]], _Integer]]

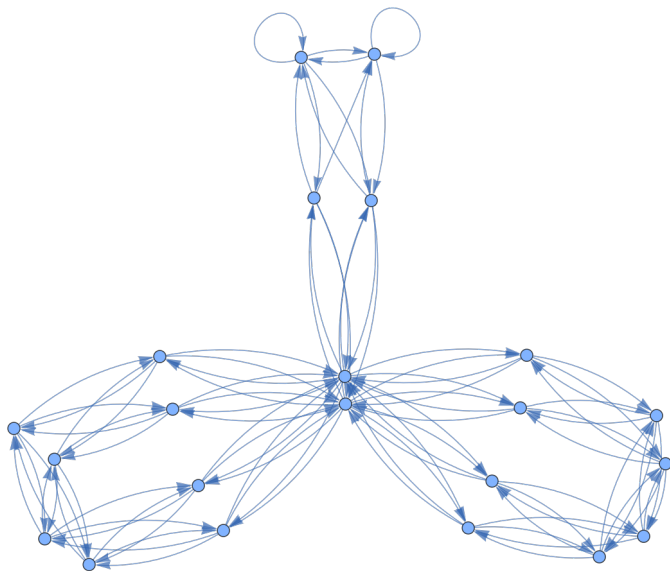
Out[145]=

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

In[146]:=

(*33.6*) Graph[Rule @@@ Partition[Table[Mod[$n^2 + n$, 100], {n, 100}], 2, 1]]

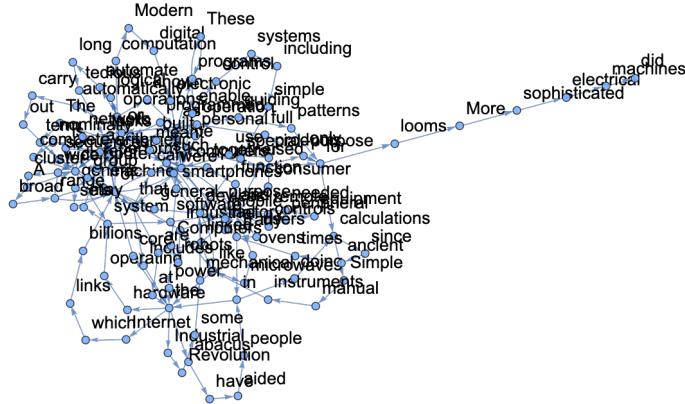
Out[146]=



```
In[147]:=
```

```
(*33.7*)Graph[Rule @@@
Partition[TextWords[WikipediaData["computers"]][[1 ;; 200]], 2, 1],
VertexLabels -> All]
```

Out[147]=



```
In[148]:=
```

```
(*33.8*) f @@@ Partition[{1, 2, 7, 2, 5, 4} 1, 2]
```

Out[148]=

$$\{f[1, 2], f[7, 2], f[5, 4]\}$$

Chapter 34

Oops. Definitely 34.1 isn't giving the right answer.

 $\ln[149]:=$

```
(*34.1*) Values[Counts[IntegerDigits[3^100]]]
```

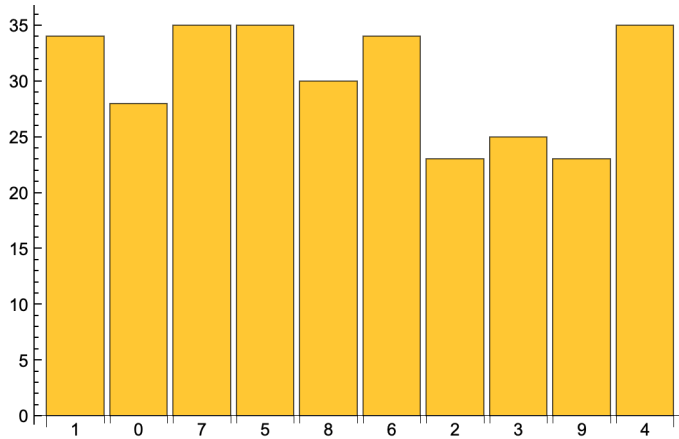
Out[149]=

$$\{5, 9, 5, 7, 9, 7, 4, 1, 1\}$$

```
In[150]:=
```

```
(*34.2*) BarChart[Counts[IntegerDigits[2 ^ 1000]], ChartLabels → Automatic]
```

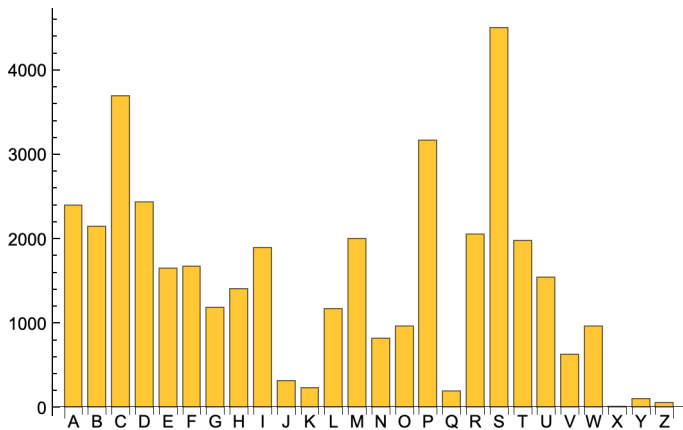
Out[150]=



In[151]:=

```
(*34.3*) BarChart[
  Counts[Capitalize[Characters[WordList[]][All, 1]]], ChartLabels → Automatic]
```

Out[151]=



In[152]:=

```
(*34.4*) Sort[Counts[Capitalize[Characters[WordList[]][All, 1]]][[-5 ;; -1]]
```

Out[152]=

```
<| A → 2397, D → 2436, P → 3168, C → 3694, S → 4502 |>
```

In[153]:=

```
(*34.5*) N[LetterCounts[WikipediaData[]][ ] / LetterCounts[WikipediaData[]][ ]]
```

*** **WikipediaData**: Invalid input.

WikipediaData can't be used with an empty string.

*** **LetterCounts**: String or list of strings expected in position 1.

*** **WikipediaData**: Invalid input.

*** **LetterCounts**: String or list of strings expected in position 1.

Out[153]=

```
1.
```

ExampleData also needs non-null arguments.

In[154]:=

```
(*34.6*) Keys[Sort[Counts[TextWords[ExampleData[{ , }]]][[-10 ;; -1]]]
```

*** **ExampleData**: Null is not a known collection for ExampleData. Use ExampleData[] for a list of collections.

*** **TextWords**: String or ContentObject expected at position 1.

*** **Counts**: The argument TextWords[ExampleData[{Null, Null}]] is not a valid Association or a list.

*** **Part**: Cannot take positions -10 through -1 in Counts[TextWords[ExampleData[{Null, Null}]]]. [i](#)

*** **Keys**: The argument Counts[TextWords[ExampleData[{Null, Null}]]][[-10 ;; -1]] is not a valid Association or a list of rules.

Out[154]=

```
Keys[Counts[TextWords[ExampleData[{Null, Null}]]][[-10 ;; -1]]
```