

# Tahm — PS 13 — 2025-03-25

## EIWL3 Sections 33 and 34

```
In[16]:= Head[ListPlot]
```

```
Out[16]:= Symbol
```

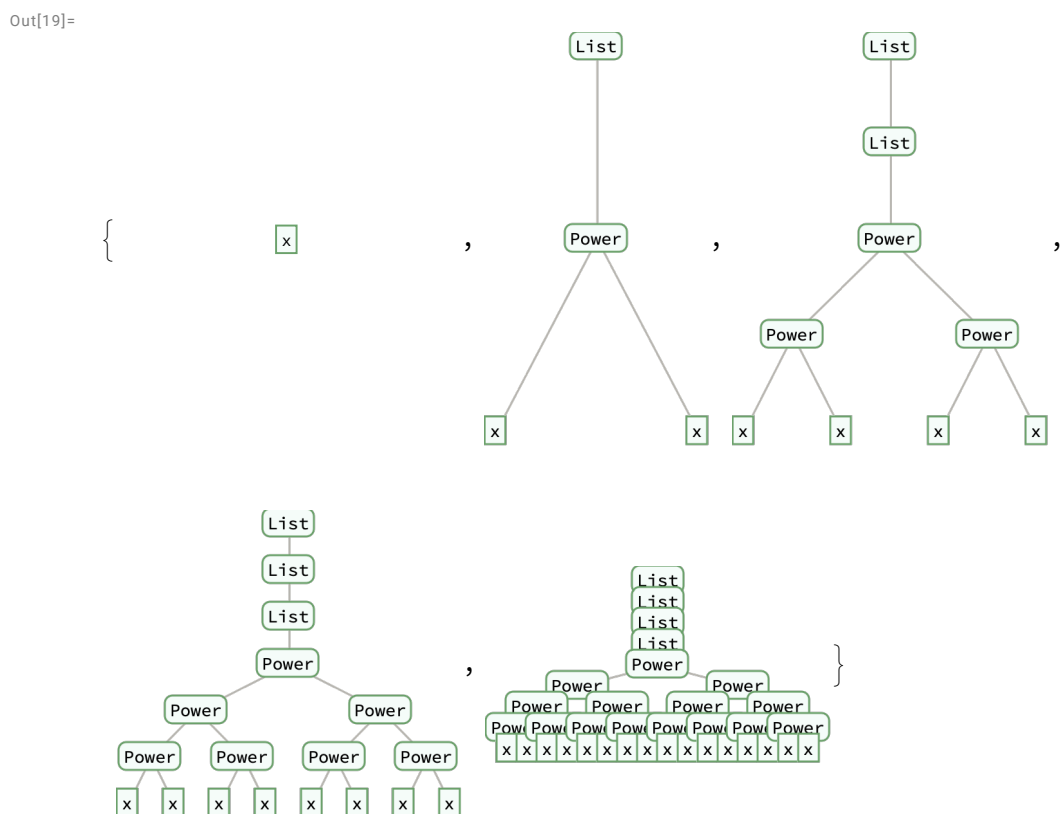
```
In[17]:= Times @@ Range[100]
```

```
Out[17]:= 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[18]:= f @@@ Tuples[{a, b}, 2]
```

```
Out[18]:= {f[a, a], f[a, b], f[b, a], f[b, b]}
```

```
In[19]:= ExpressionTree /@ NestList[{#^#} &, x, 4]
```

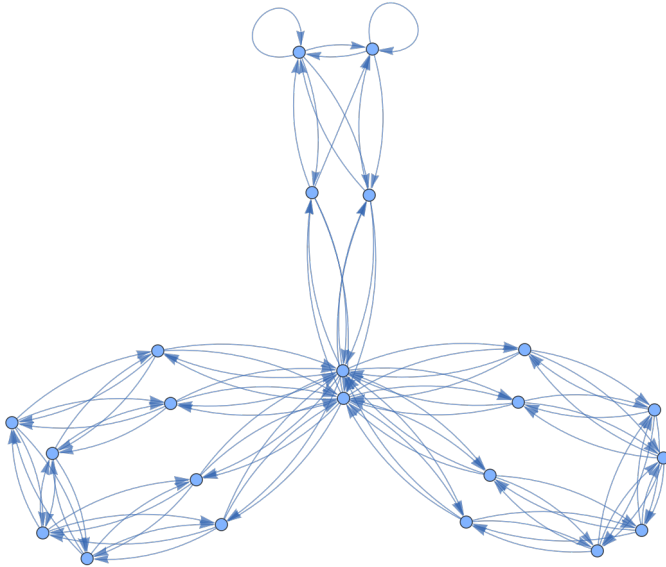


```
In[20]:= Union[Cases[
  Flatten[Table[{i^2 / (j^2 + 1)}, {i, 20}, {j, 20}]], _Integer]]
```

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

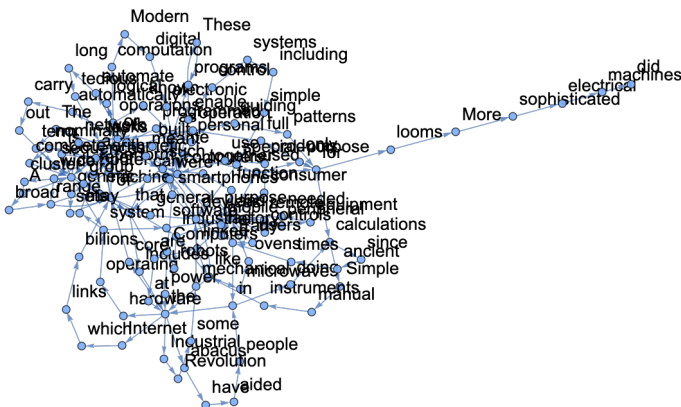
```
In[21]:= Graph[Rule @@@ Partition[Table[Mod[n^2 + n, 100], {n, 100}], 2, 1]]
```

```
Out[21]=
```



```
In[22]:= Graph[Rule @@@ Partition[TextWords[WikipediaData["Computers"], 200], 2, 1],
  VertexLabels -> All]
```

```
Out[22]=
```



```
In[23]:= FullForm[f @ # & /@ {{1, 2}, {7, 2}, {5, 4}}]
```

```
Out[23]//FullForm=
```

```
List[f[1, 2], f[7, 2], f[5, 4]]
```

```
In[24]:= f @@@ {{1, 2}, {7, 2}, {5, 4}}
```

```
Out[24]=
```

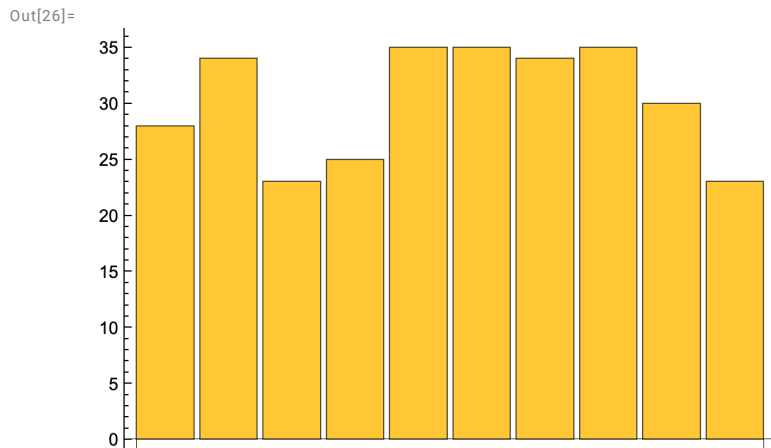
```
{f[1, 2], f[7, 2], f[5, 4]}
```

# Chapter 34

```
In[25]:= Values[KeySort[Counts[IntegerDigits[3^100]]]]
```

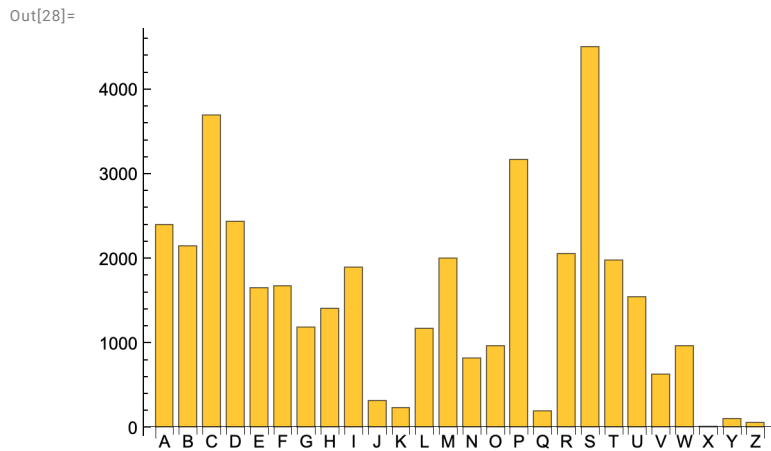
```
Out[25]:= {7, 9, 9, 5, 1, 5, 4, 7, 1}
```

```
In[26]:= BarChart[Values[KeySort[Counts[IntegerDigits[2^1000]]]]]
```



```
In[27]:=
```

```
In[28]:= BarChart[KeySort[Counts[ToUpperCase[StringTake[WordList[], 1]]]],  
ChartLabels -> Automatic]
```



```
In[29]:= TakeLargest[KeySort[Counts[ToUpperCase[StringTake[WordList[], 1]]]],  
5]
```

```
Out[29]= <| S -> 4502, C -> 3694, P -> 3168, D -> 2436, A -> 2397 |>
```

```
In[30]:= #q / #u &@LetterCounts[WikipediaData["Computers"]]
```

```
Out[30]=
```

$$\frac{63}{1570}$$

```
In[31]:= Keys[TakeLargest[Counts[TextWords[ExampleData[{"Text", "AliceInWonderland"}]]], 10]]
```

```
Out[31]=
```

```
{the, and, a, to, she, of, was, Alice, in, it}
```

```
In[32]:=
```

```
In[33]:=
```

```
In[34]:=
```

```
In[35]:=
```

```
In[36]:=
```