

Harper — EIWL Sections 33, 34

Section 33

In[98]:= **Head[ListPlot[{3, 5}]]**

Out[98]=
Graphics

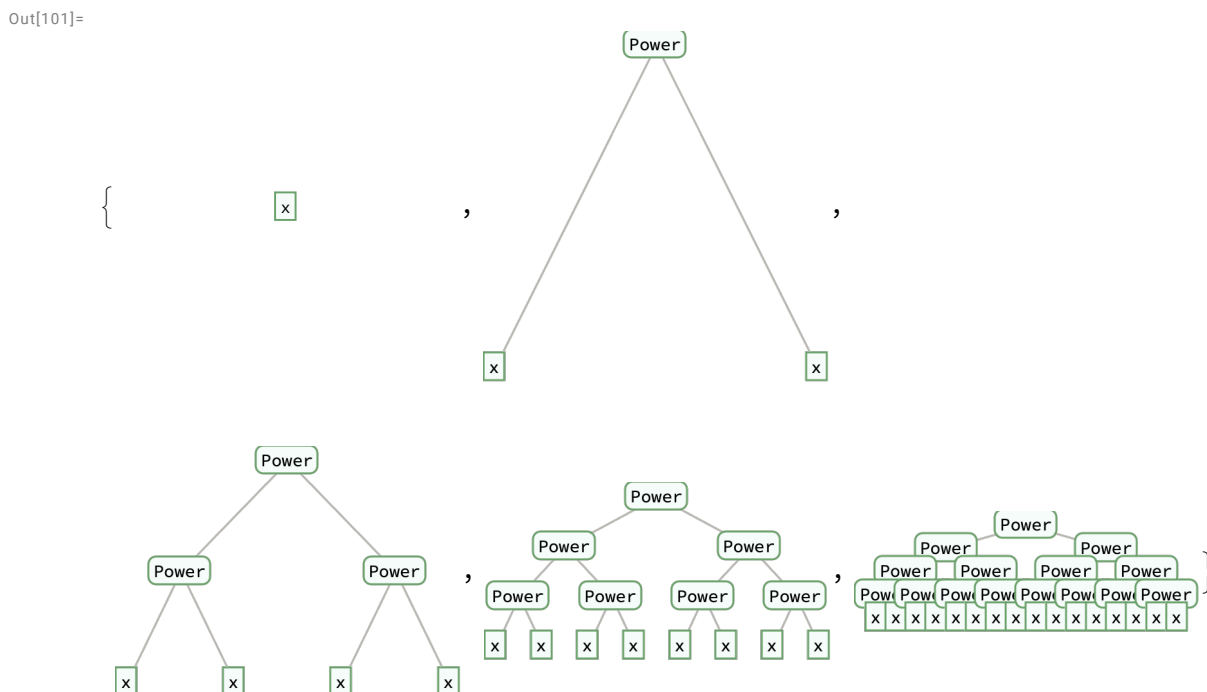
In[99]:= **Times @@ Range[100]**

Out[99]=
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[100]:= **f @@@ Tuples[{a, b}, 2]**

Out[100]=
{f[a, a], f[a, b], f[b, a], f[b, b]}

In[101]:= **ExpressionTree /@ NestList[#^# &, x, 4]**



In[102]:= **Cases[Flatten[Table[i^2 / (j^2 + 1), {i, 20}, {j, 20}]], _Integer]**

Out[102]=
{2, 8, 5, 18, 32, 50, 20, 10, 2, 72, 98, 45, 128, 17, 162, 200, 80, 40, 8}

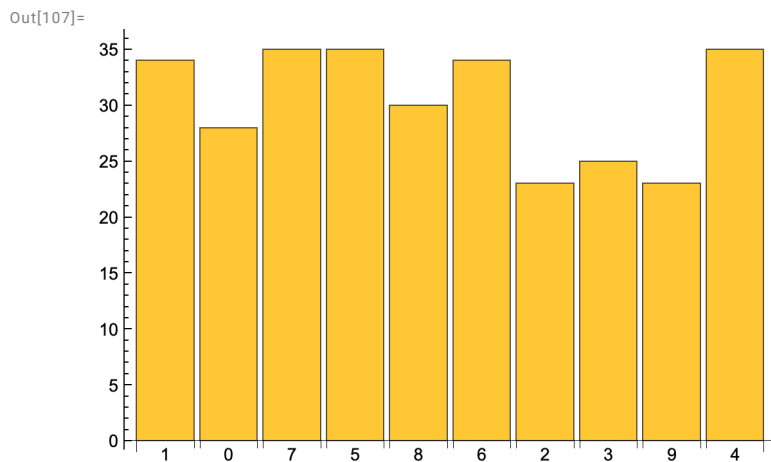
I think you were meant to have a Union statement to avoid repeats.

Section 34

```
In[106]:= Values[KeySort[Counts[IntegerDigits[3^100]]]]
```

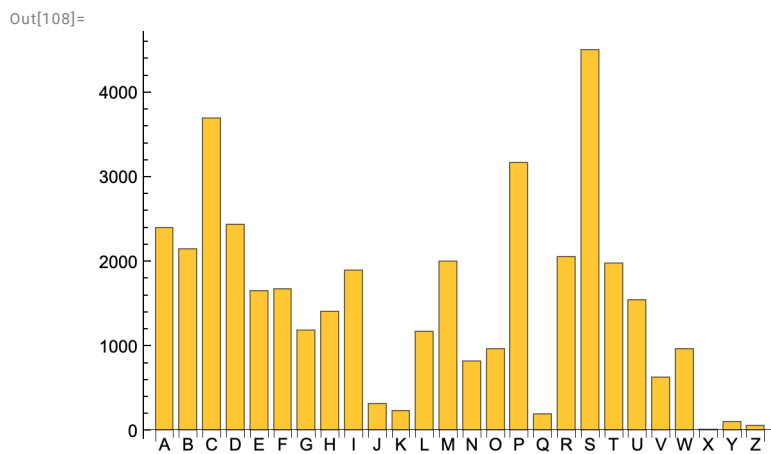
```
Out[106]= {7, 9, 9, 5, 1, 5, 4, 7, 1}
```

```
In[107]:= BarChart[Counts[IntegerDigits[2^1000]], ChartLabels → Automatic]
```



Your bar chart is in a whacky order!

```
In[108]:= BarChart[Counts[ToUpperCase[StringTake[WordList[], 1]]], ChartLabels → Automatic]
```



```
In[109]:= Take[Sort[Counts[ToUpperCase[StringTake[WordList[], 1]]], -5]
```

```
Out[109]= <| A → 2397, D → 2436, P → 3168, C → 3694, S → 4502 |>
```

```
In[110]:= #q / #u &@LetterCounts[WikipediaData["computers"]] // N
```

```
Out[110]= 0.0401274
```

Very cool. Your solution to 34.5 agrees with mine, although I don't even know how your works!

```
In[111]:= TakeLargest[Counts[TextWords[ExampleData[{"Text", "AliceInWonderland"}]]], 10]
```

Out[111]=

<| the → 573, and → 319, a → 269, to → 248, she → 203,
of → 194, was → 166, Alice → 161, in → 155, it → 154 |>