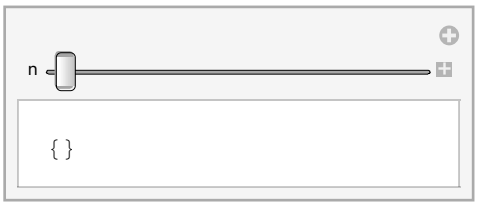
Eli — PS 3 — 2025-01-24

Very nice. 10/10

Chapter 9

In[90]:=
```
Manipulate[Range[n], {n, 0, 100}]
```

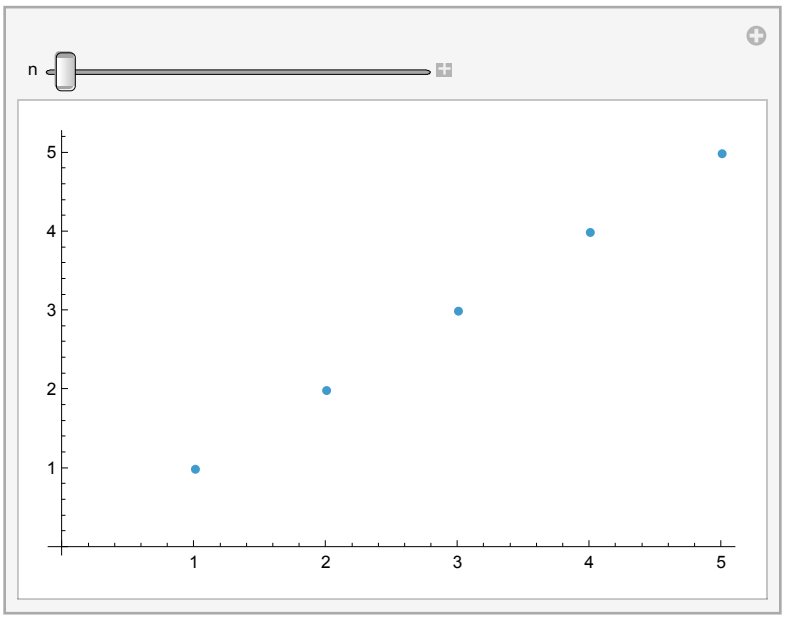
Out[90]=



You and Tahm have the same issue with the use of CurrentImage[]. Ask me if you care. It will become clearer when we get to the section on delayed execution. See p. 7 for example.

In[91]:=
```
Manipulate[ListPlot[Range[n]], {n, 5, 50}]
```

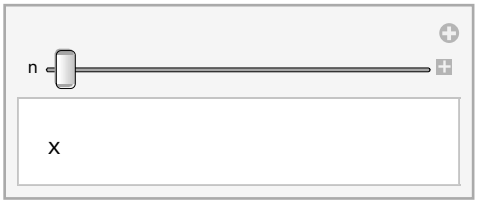
Out[91]=



I think he was looking for a number line plot.

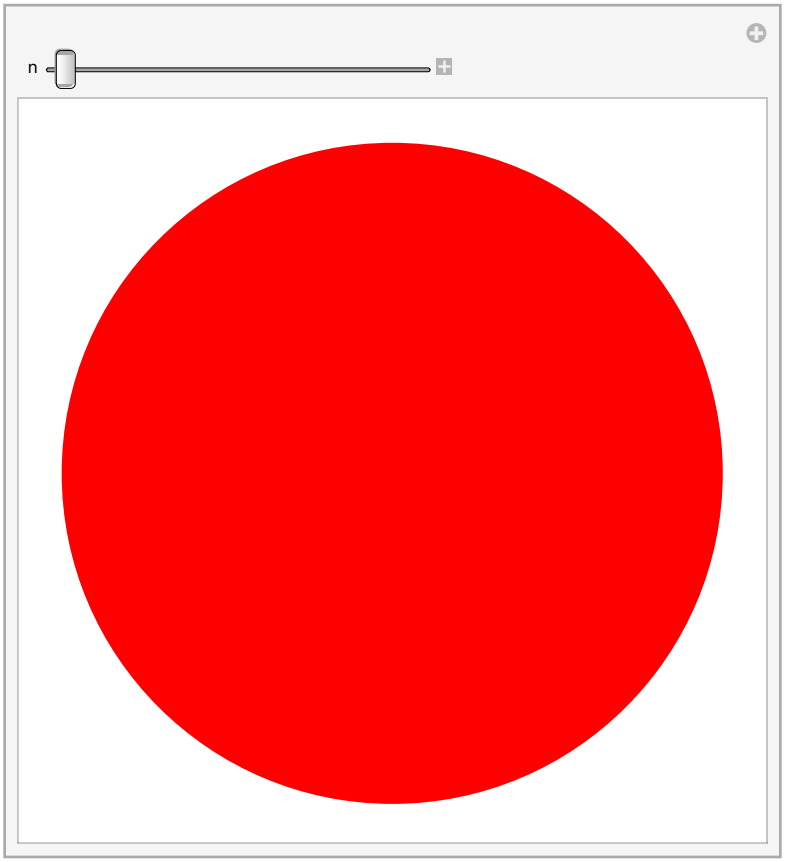
In[92]:=
```
Manipulate[Column[Table[x, n]], {n, 1, 10}]
```

Out[92]=



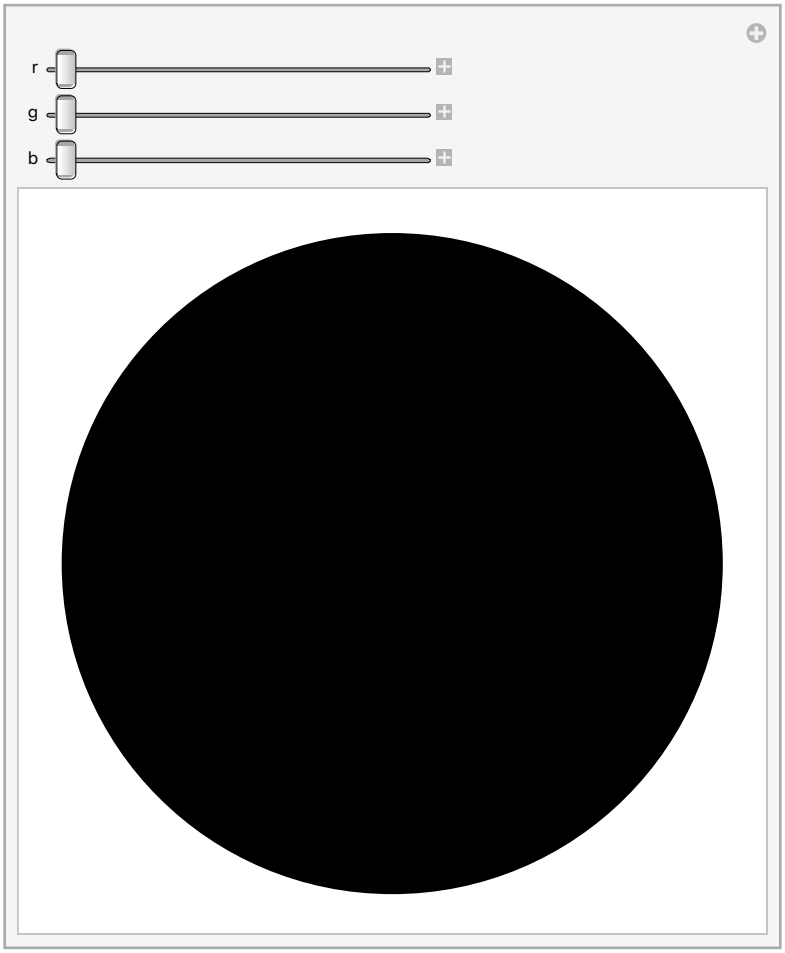
In[93]:=
```
Manipulate[Graphics[Style[Disk[], Hue[n]]], {n, 0, 1, 0.02}]
```

Out[93]=



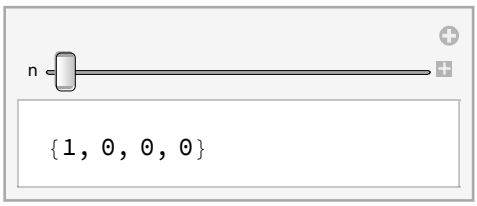
In[94]:=
```
Manipulate[Graphics[Style[Disk[], RGBColor[r, g, b]]], {r, 0, 1}, {g, 0, 1}, {b, 0, 1}]
```

Out[94]=



In[95]:=
```
Manipulate[IntegerDigits[n], {n, 1000, 9999, 1}]
```

Out[95]=



In[96]:=
```
IntegerDigits[9999]
```

Out[96]=

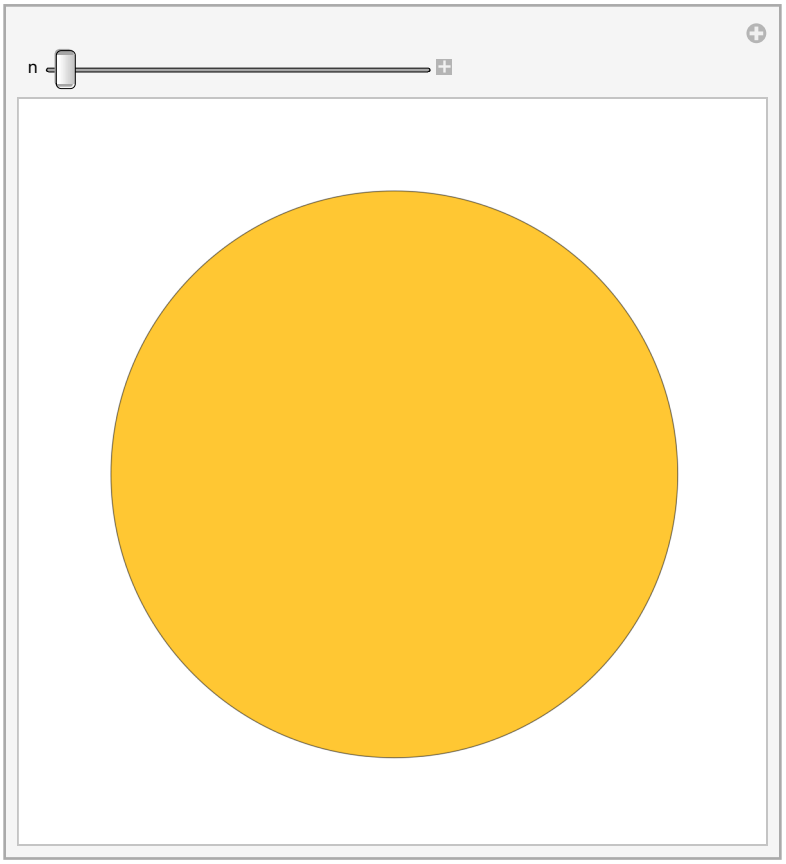
{9, 9, 9, 9}

In[97]:=
```
Manipulate[Table[Hue[n], {n, 0, 1, 1 / m}], {m, 5, 50}]
```

Out[97]=

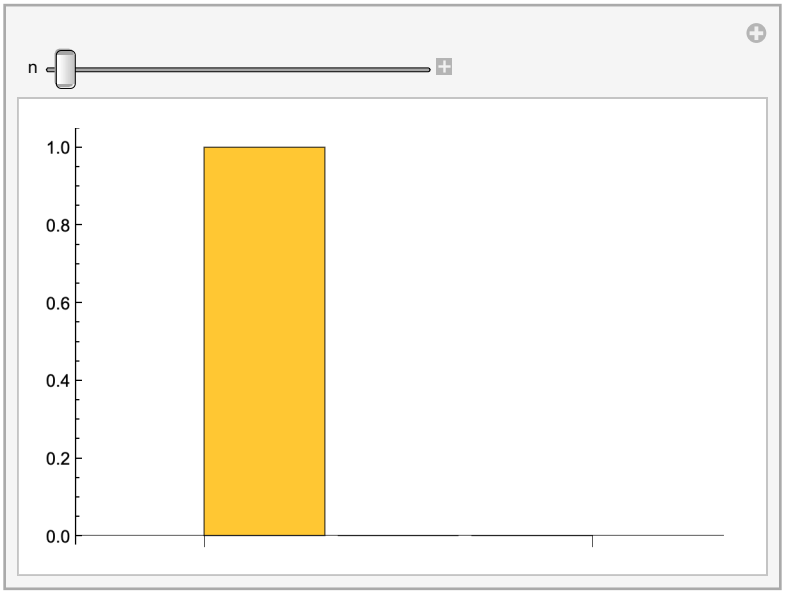
In[98]:=
```
Manipulate[PieChart[Table[1, n]], {n, 1, 10}]
```

Out[98]=



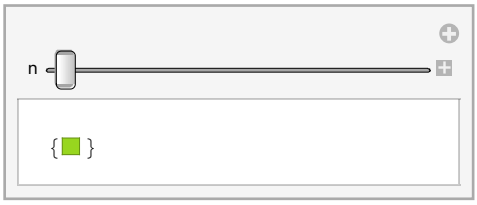
In[99]:=
```
Manipulate[BarChart[IntegerDigits[n]], {n, 100, 999, 1}]
```

Out[99]=



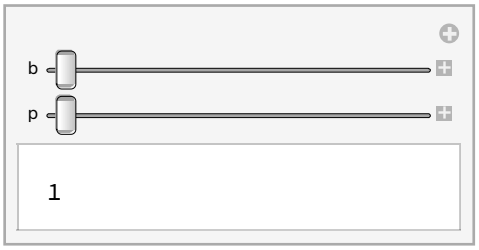
In[100]:=
```
Manipulate[Table[RandomColor[], n], {n, 1, 50}]
```

Out[100]=



In[101]:=
```
Manipulate[Column[Range[b]^p], {b, 1, 25}, {p, 1, 10, 1}]
```

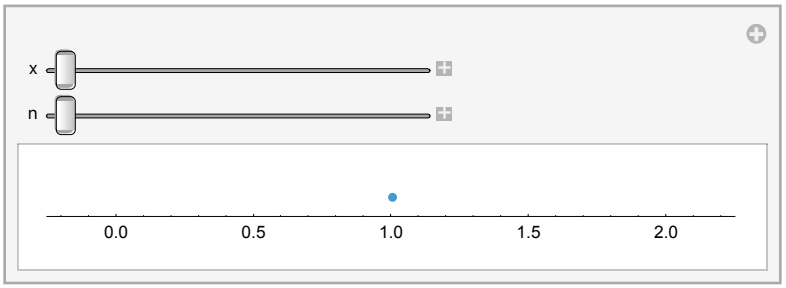
Out[101]=



In[102]:=

```
Manipulate[NumberLinePlot[Range[x]^n], {x, 1, 10}, {n, 1, 5}]
```

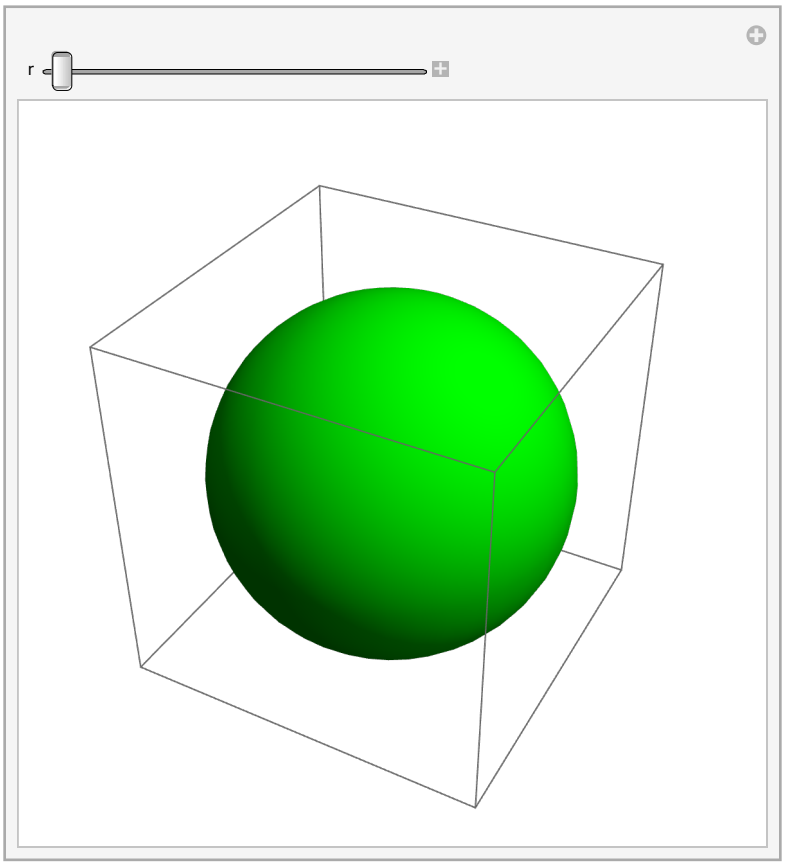
Out[102]=



In[103]:=

```
Manipulate[Graphics3D[Style[Sphere[], RGBColor[r, 255 - r, 0]]], {r, 0, 255}]
```

Out[103]=

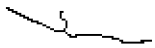


Chapter 10

In[104]:=

```
ColorNegate[EdgeDetect[CurrentImage[]]]
```

Out[104]=



In[105]:=

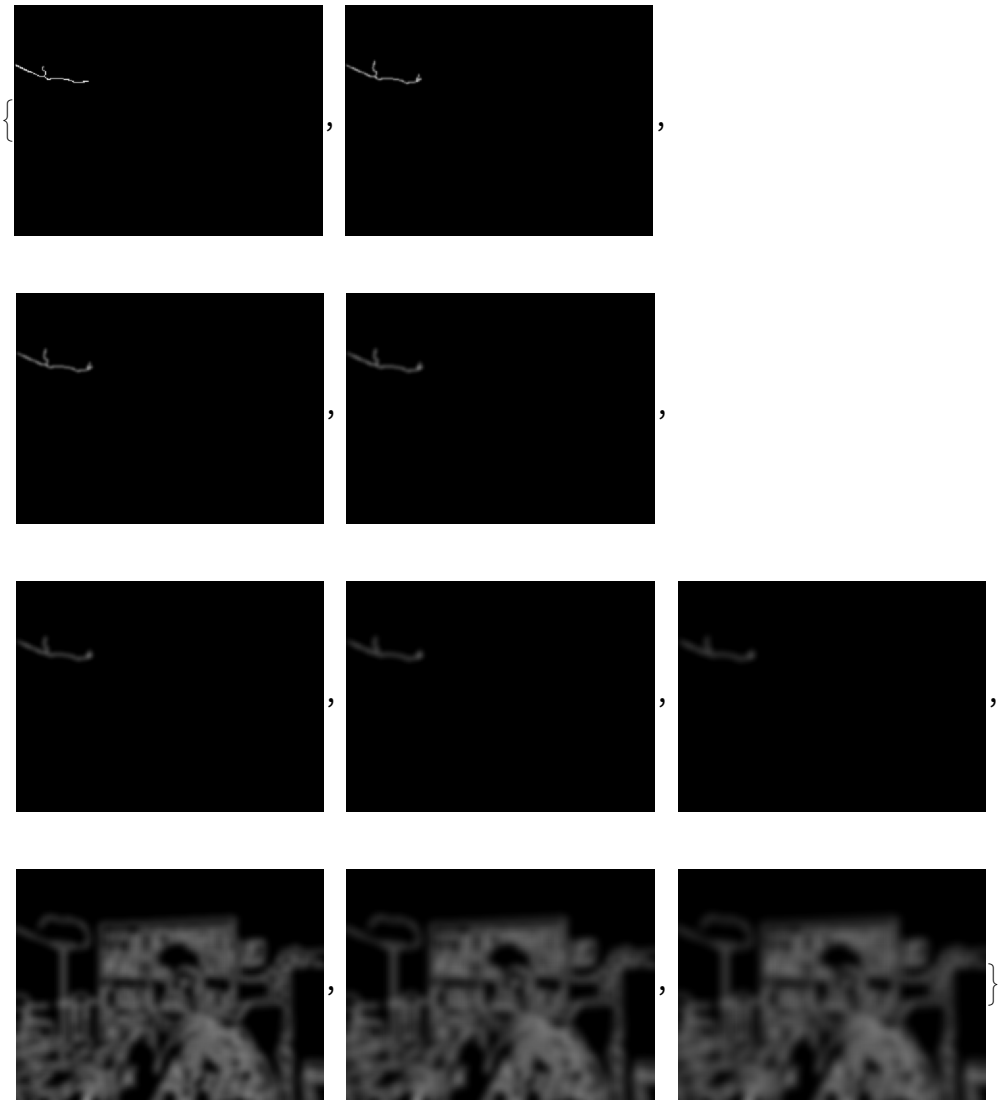
```
Manipulate[Blur[CurrentImage[], n], {n, 0, 20}]
```

This creates a real strain on the system.

In[106]:=

```
Table[Blur[EdgeDetect[CurrentImage[]], n], {n, 1, 10}]
```

Out[106]=



In[107]:=

```
ImageCollage[{CurrentImage[], Binarize[CurrentImage[]],
  ColorNegate[CurrentImage[]], EdgeDetect[CurrentImage[]]}]
```

Out[107]=

In[108]:=

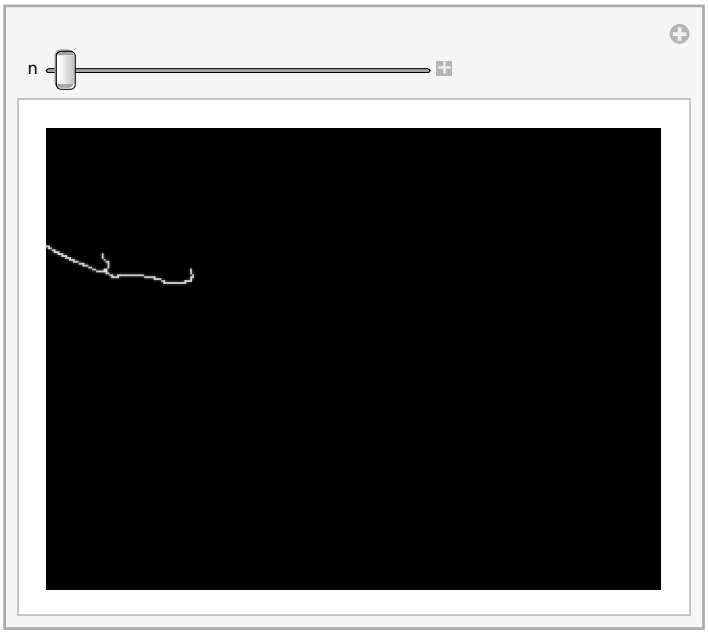
```
ImageAdd[{CurrentImage[], Binarize[CurrentImage[]]}]
```

Out[108]=

In[109]:=

```
Manipulate[Blur[EdgeDetect[CurrentImage[]], n], {n, 1, 20}]
```

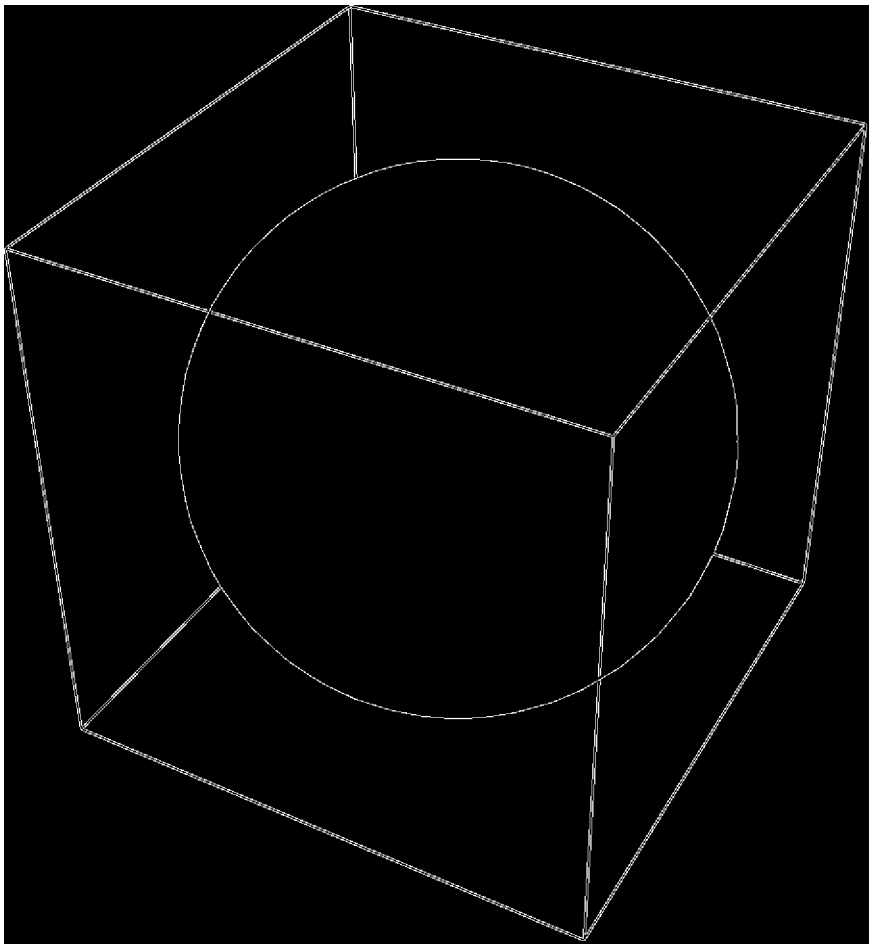
Out[109]=



In[110]:=

```
EdgeDetect[Graphics3D[Sphere[]]]
```

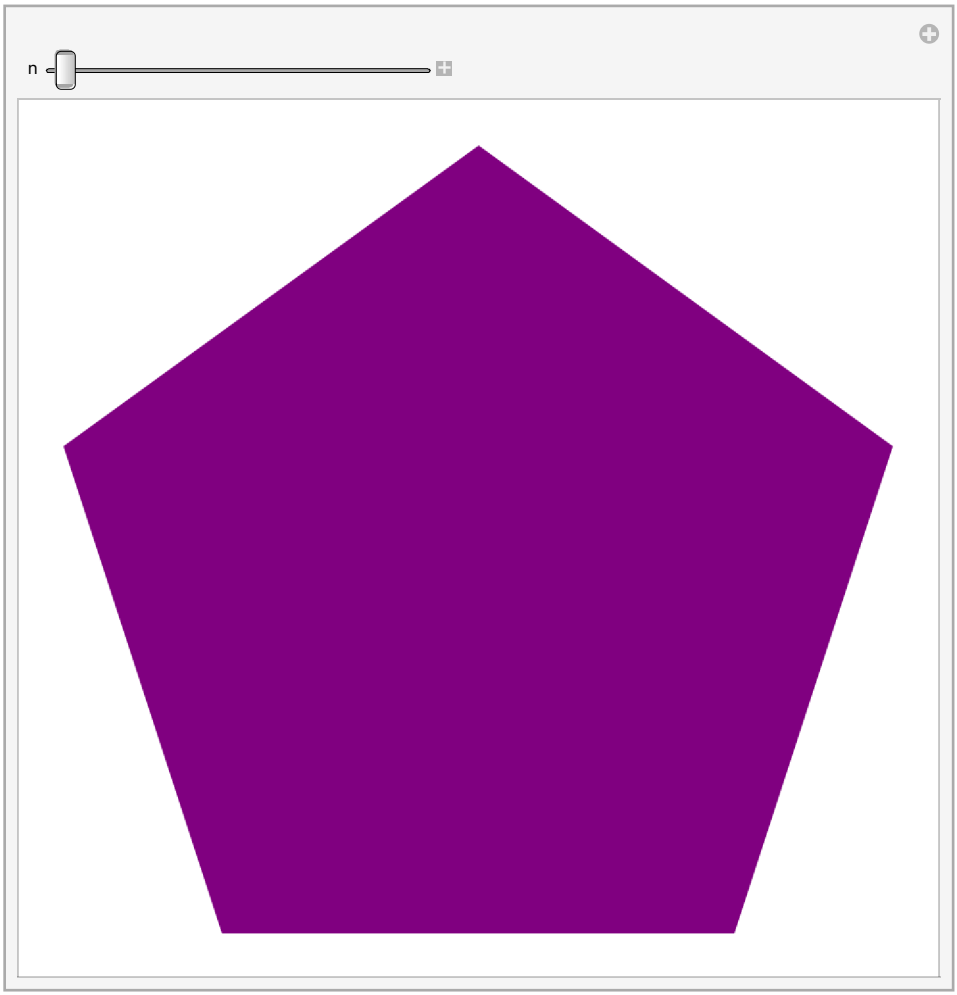
Out[110]=



In[111]:=

```
Manipulate[Blur[Graphics[Style[RegularPolygon[5], Purple]], n], {n, 0, 20}]
```

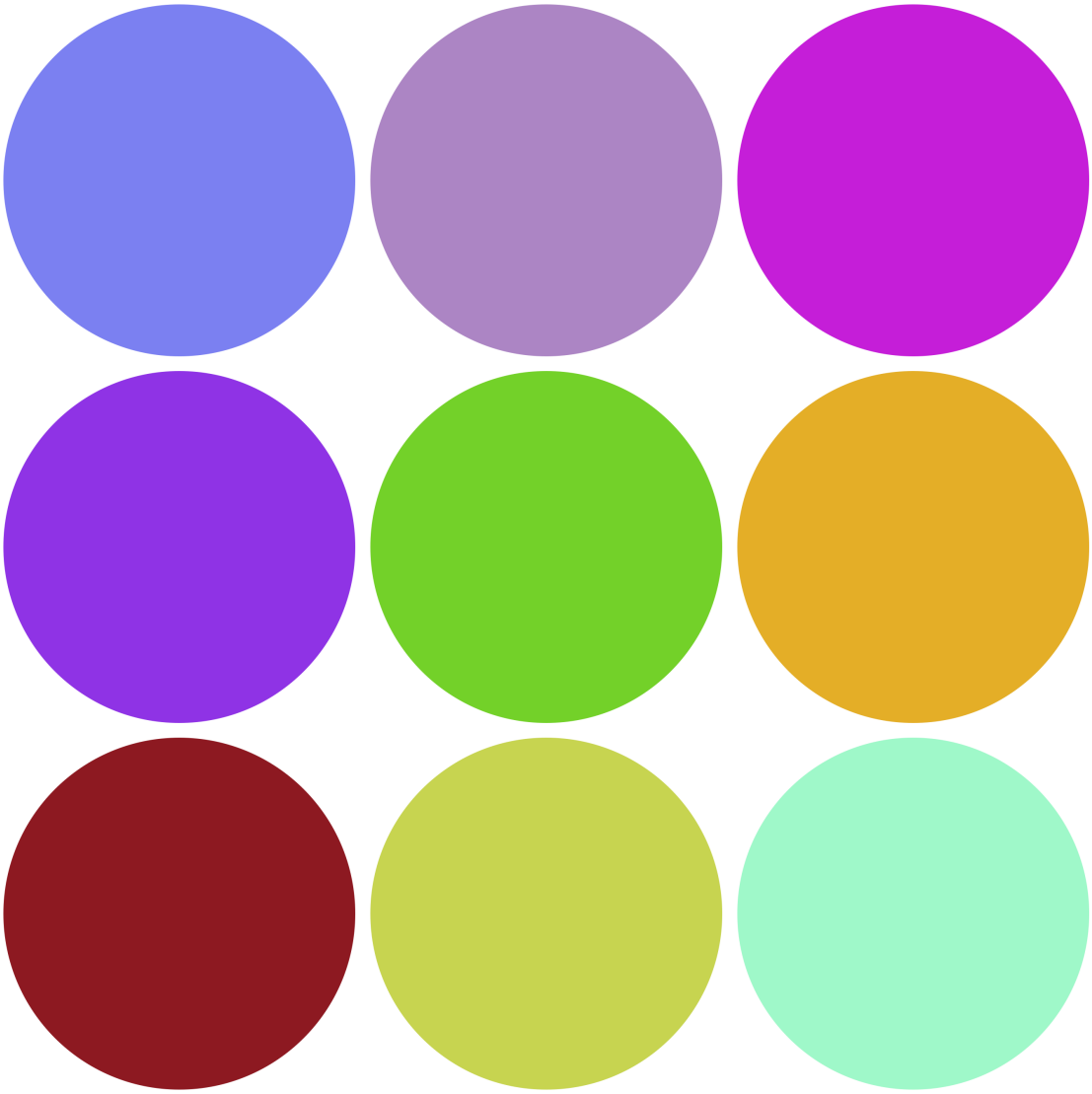
Out[111]=



In[112]:=

```
ImageCollage[Table[Graphics[Style[Disk[], RandomColor[]]], 9]]
```

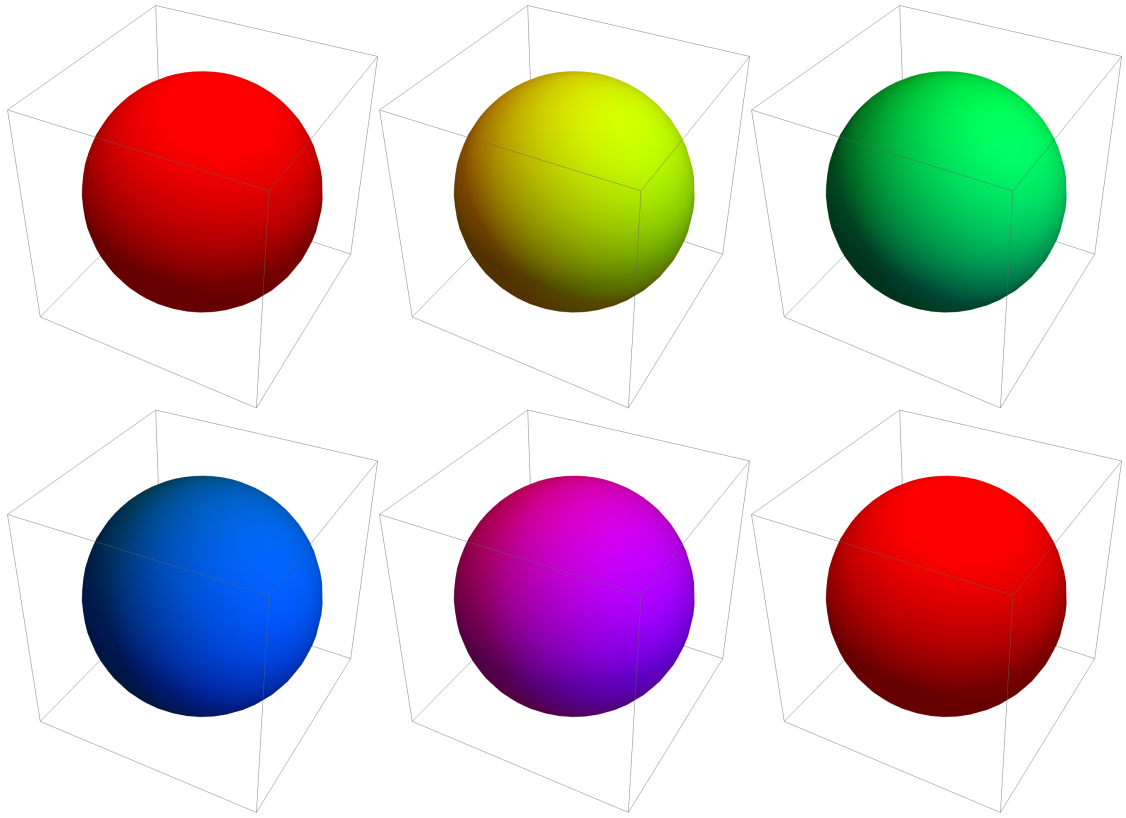
Out[112]=



In[113]:=

```
ImageCollage[Table[Graphics3D[Style[Sphere[], Hue[n]]], {n, 0, 1, 0.2}]]
```

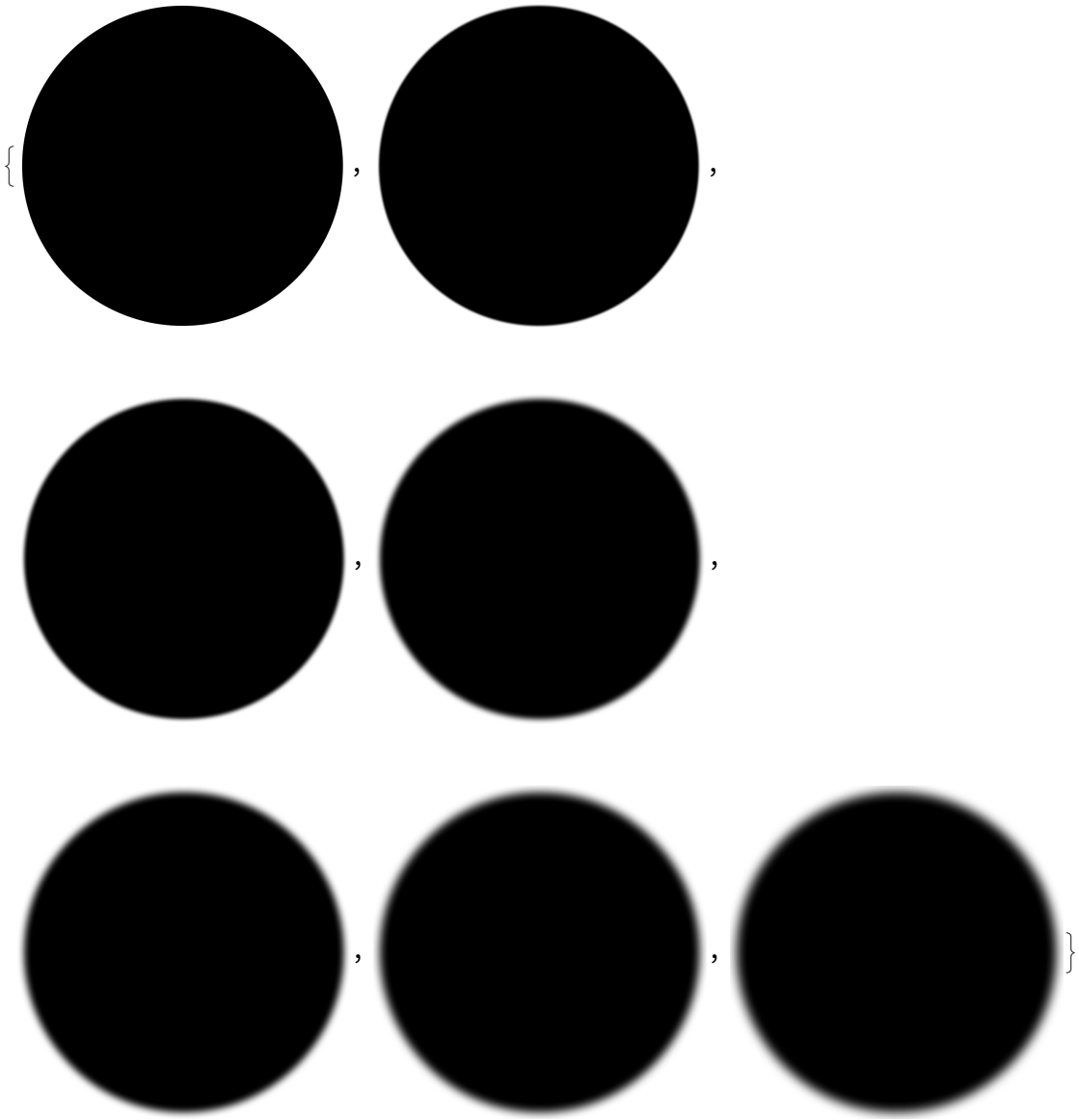
Out[113]=



In[114]:=

```
Table[Blur[Graphics[Disk[]], n], {n, 0, 30, 5}]
```

Out[114]=

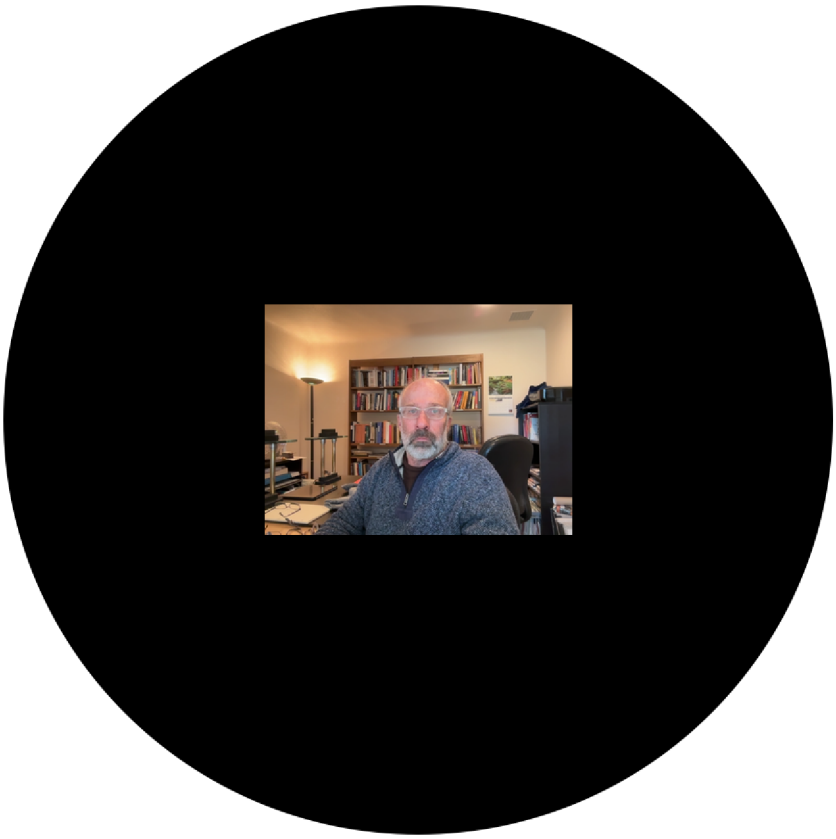


In[115]:=

In[116]:=

```
ImageAdd[{Graphics[Disk[]], CurrentImage[]}]
```

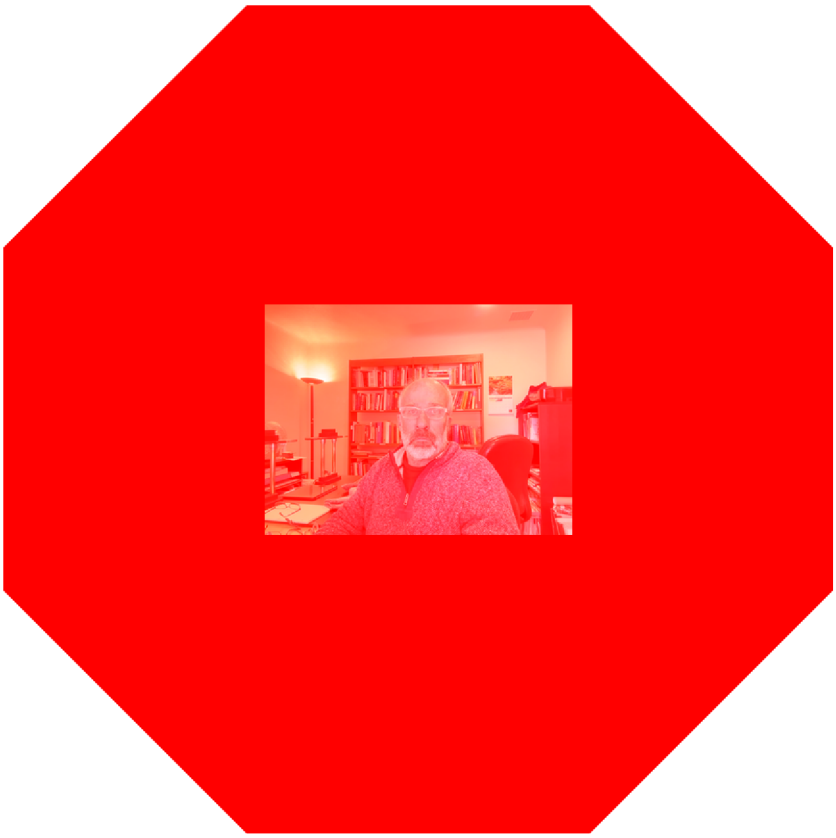
Out[116]=



In[117]:=

```
ImageAdd[{Graphics[Style[RegularPolygon[8], Red]], CurrentImage[]}]
```

Out[117]=



In[118]:=

```
ImageAdd[{CurrentImage[], ColorNegate[EdgeDetect[CurrentImage[]]]}]
```

Out[118]=

Chapter 10

In[119]:=

```
StringJoin["hello", "hello"]
```

Out[119]=

```
hellohello
```

In[120]:=

```
StringJoin[ToUpperCase[Alphabet[]]]
```

Out[120]=

```
ABCDEFGHIJKLMNOPQRSTUVWXYZ
```

In[121]:=

```
StringReverse[StringJoin[Alphabet[]]]
```

Out[121]=

```
zyxwvutsrqponmlkjihgfedcba
```

In[122]:=

```
StringJoin[Table["AGCT", 100]]
```

Out[122]=

```
AGCTAGCTAGCTA
```

In[124]:=

```
Column[Table[StringTake["This is about strings", n],
  {n, StringLength["This is about strings"]}]]
```

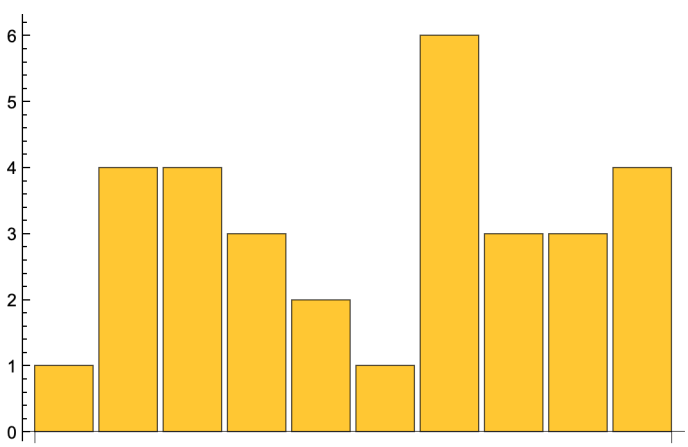
Out[124]=

```
T
Th
Thi
This
This
This i
This is
This is
This is a
This is ab
This is abo
This is abou
This is about
This is about
This is about s
This is about st
This is about str
This is about stri
This is about strin
This is about string
This is about strings
```

In[125]:=

```
BarChart[StringLength[TextWords["A long time ago in a galaxy far, far away"]]]
```

Out[125]=



In[126]:=

```
StringLength[WikipediaData["computer"]]
```

Out[126]=

60 266

In[127]:=

```
Length[TextWords[WikipediaData["computer"]]]
```

Out[127]=

9271

In[128]:=

```
Take[TextSentences[WikipediaData["strings"]], 1]
```

Out[128]=

```
{String or strings may refer to:}
```

In[129]:=

```
StringJoin[StringTake[TextSentences[WikipediaData["computers"]], 1]]
```

Out[129]=

```
AMTTACCESEMTTTCTPP=ITTDBTTTT==DTLTTTSITIIDMTTAAATTTIASIBIAITITIITSI=CCAHTFTTTAEBNH
  =ITax()2{,THI=DHTTTTAB==CBTDETTITIRTZTT=PTEITDTTHACIINCTLOTIIIHBT==TTHTVTE=
  ECWATIHJTIIAATBAIL=TJFCJTHATHTTWITT=TTDTKIHKNNHPNIMTGFTTWISTITS=TTLTTTT=C=A=SH=
  TC==ATIET=WTTSC=TSC=TCATRDIRTPIWJSAIT=TES=TTSHTALTSG=
  AETTLSIETWOAMTTRACrRIIISFIIG=IDOHCIAMA=WTOBItSTBSIT=SMSTSS=SSCICW=T=TTMIAL=
  TITHTFMPWSTCBOTOI=ITTSTTITMWITC=PUTTS=MF=ATHHIT=PALTP=ETHOBSA=CTITTITCITA"=AWA=
  TMH=TQCVSLTTT=ACARPE=AT=====M
```

In[130]:=

```
Max[StringLength[WordList[]]]
```

Out[130]=

```
23
```

In[131]:=

```
Count[LetterNumber[StringTake[WordList[], 1]], 17]
```

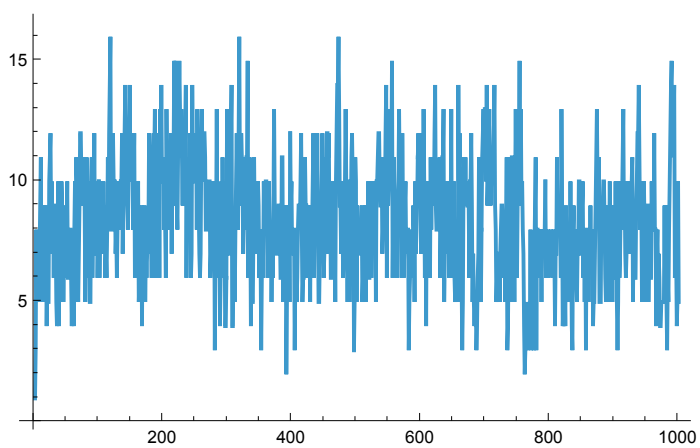
Out[131]=

```
194
```

In[132]:=

```
ListLinePlot[StringLength[Take[WordList[], 1000]]]
```

Out[132]=



In[133]:=

```
WordCloud[Table[Characters[Part[WordList[], RandomInteger[39 176]]], 100]]
(*Not enough memory to compute for entire
 wordlist so I just did 100 random words from it*)
```

Out[133]=

Excellent recovery! Rania had the same problem.