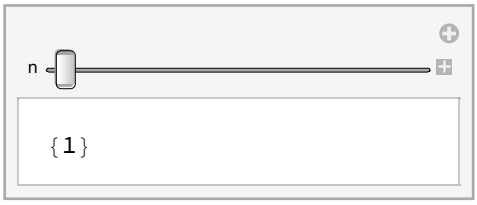
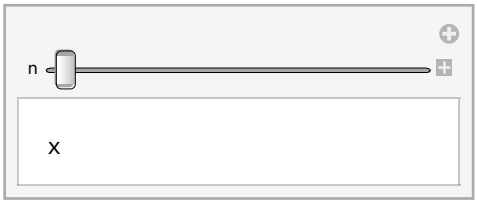
Chapter 9

In[321]:=

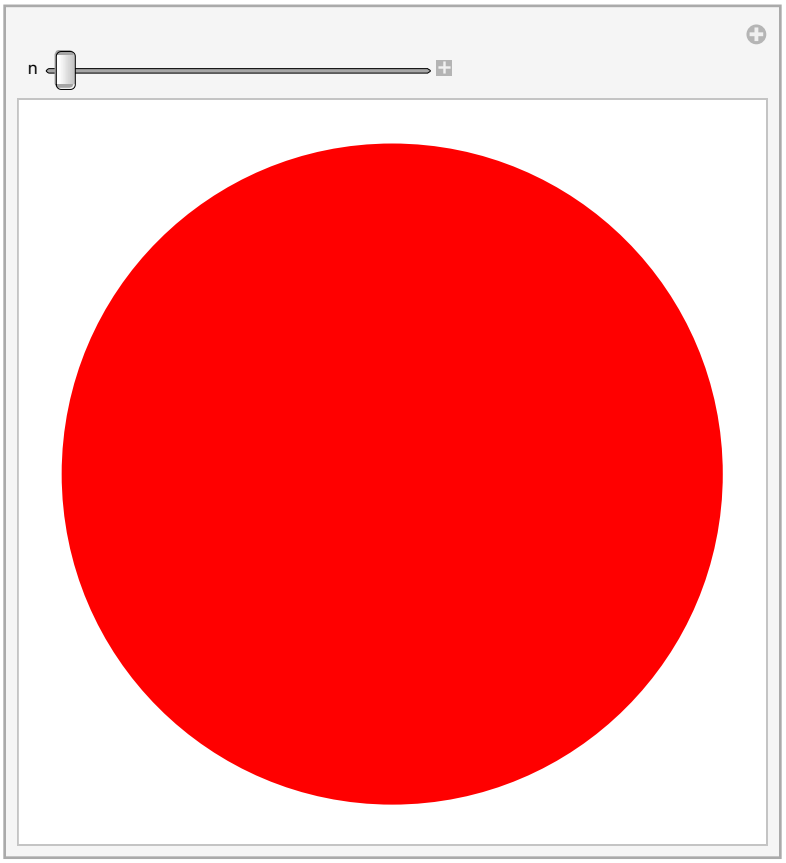
```
Manipulate[Range[n], {n, 1, 100, 1}]
```



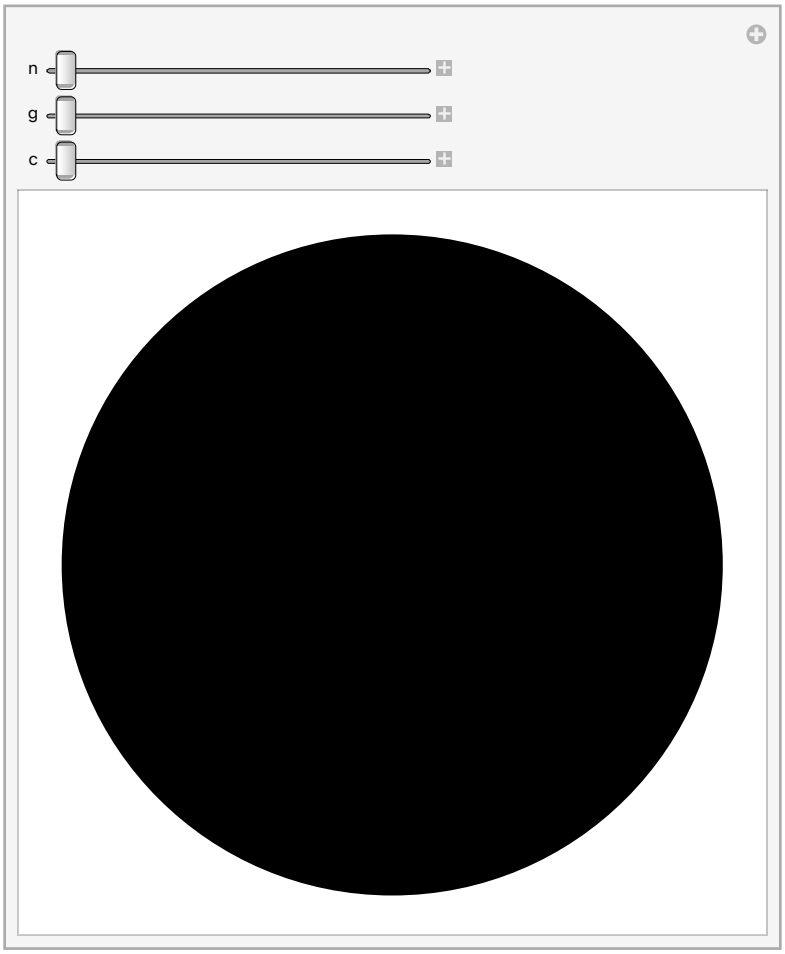

```
Manipulate[Column[Table[x, n]], {n, 1, 10, 1}]
```



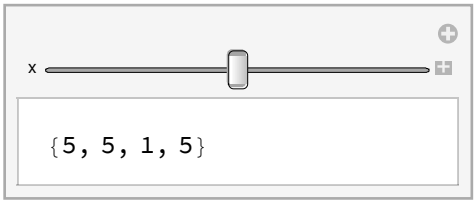

```
Manipulate[Graphics[Style[Disk[], Hue[n]]], {n, 0, 1}]
```



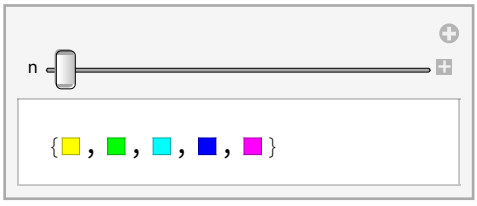

```
Manipulate[Graphics[Style[Disk[], RGBColor[n, g, c]]],
 {n, 0, 1}, {g, 0, 1}, {c, 0, 1}]
```



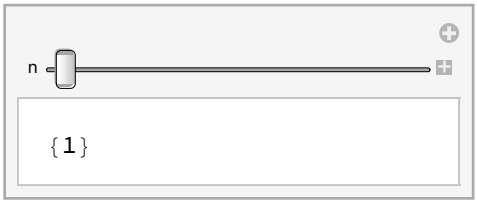

```
Manipulate[IntegerDigits[x], {x, 1000, 9999, 1}]
```



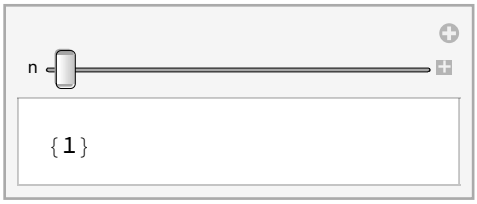

```
Manipulate[Table[Hue[RGB / n], {RGB, n - 1}], {n, 6, 50, 1}]
```



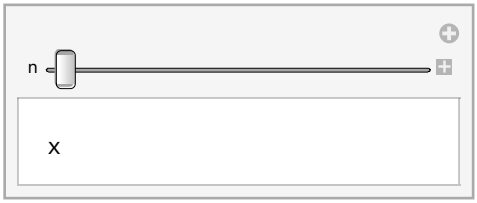
Out[321]=



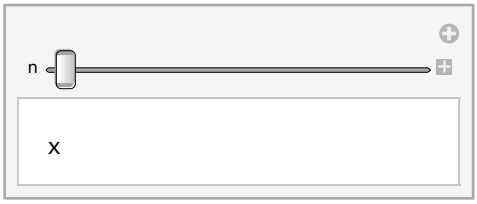
Out[322]=



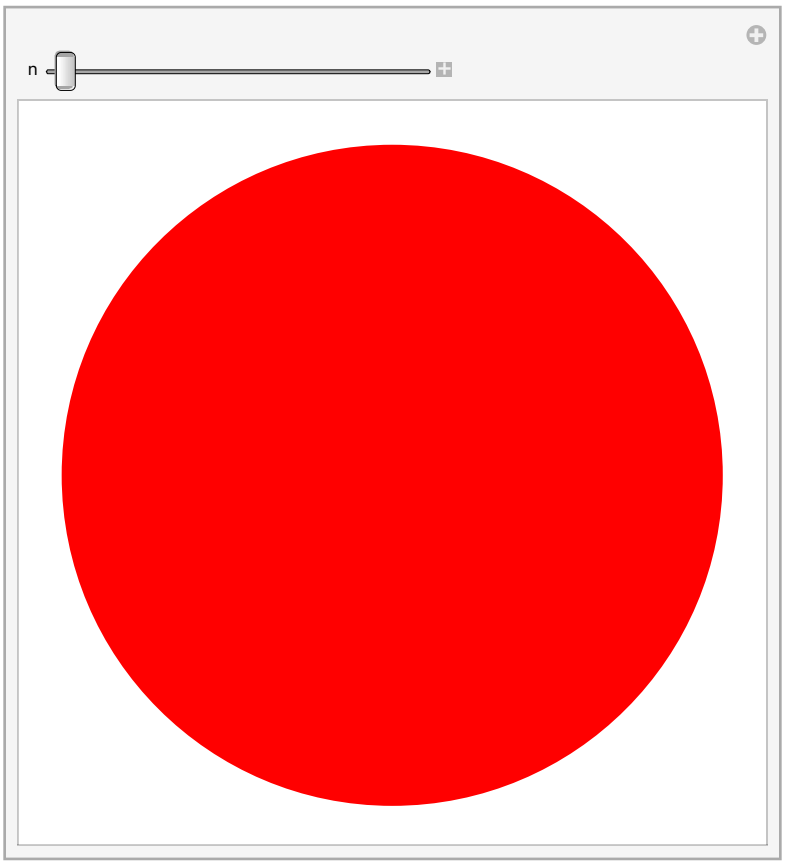
Out[323]=



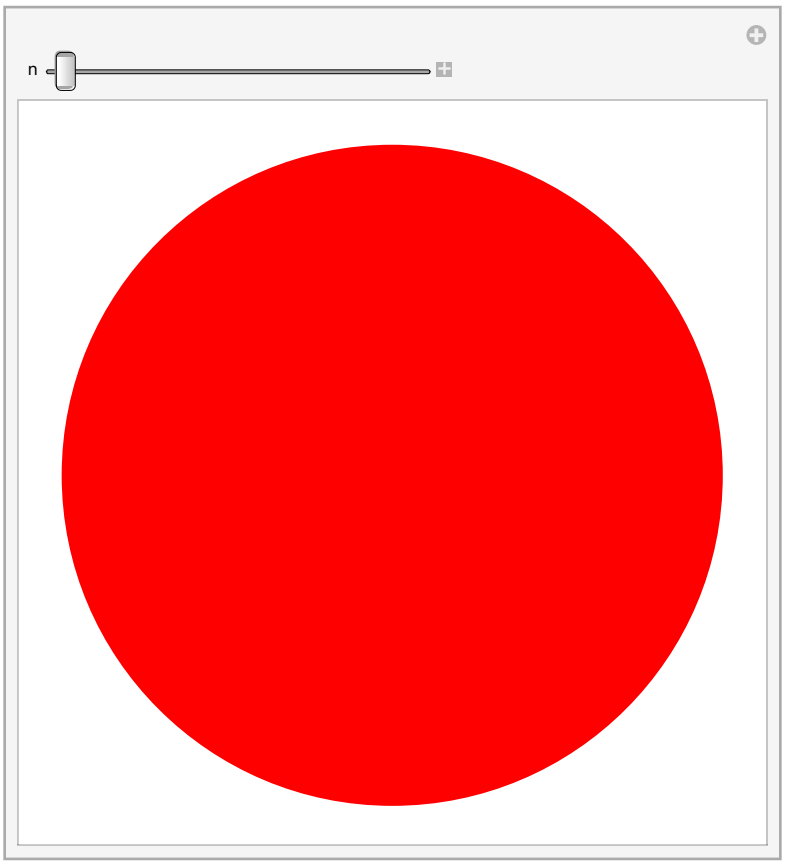
Out[324]=



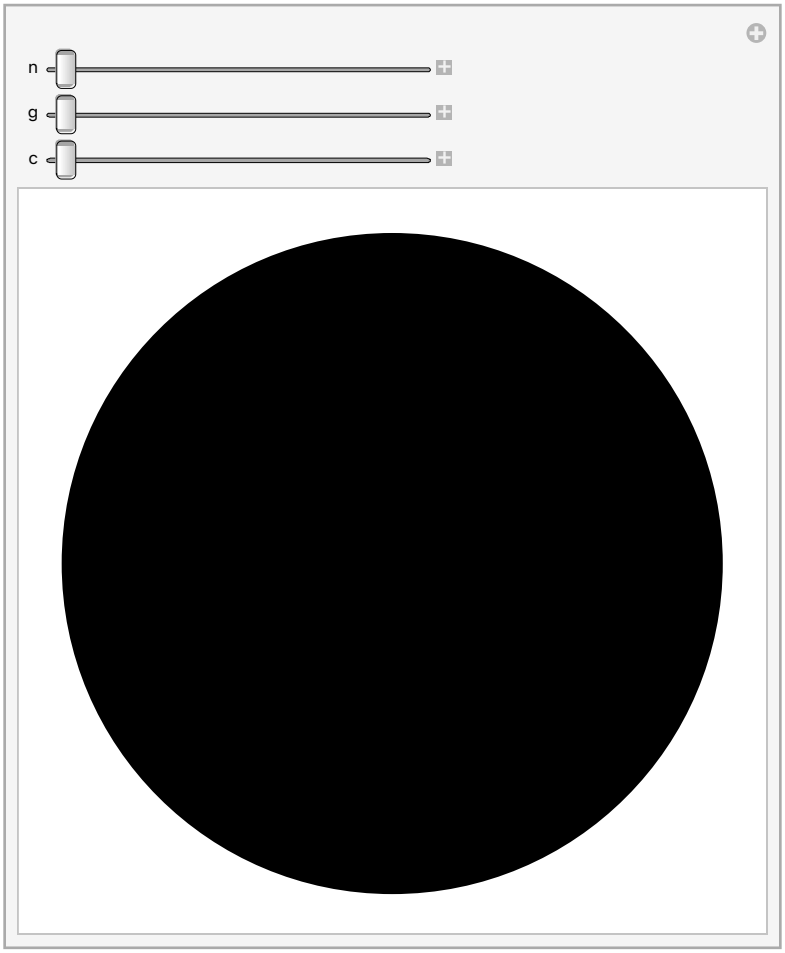
Out[325]=



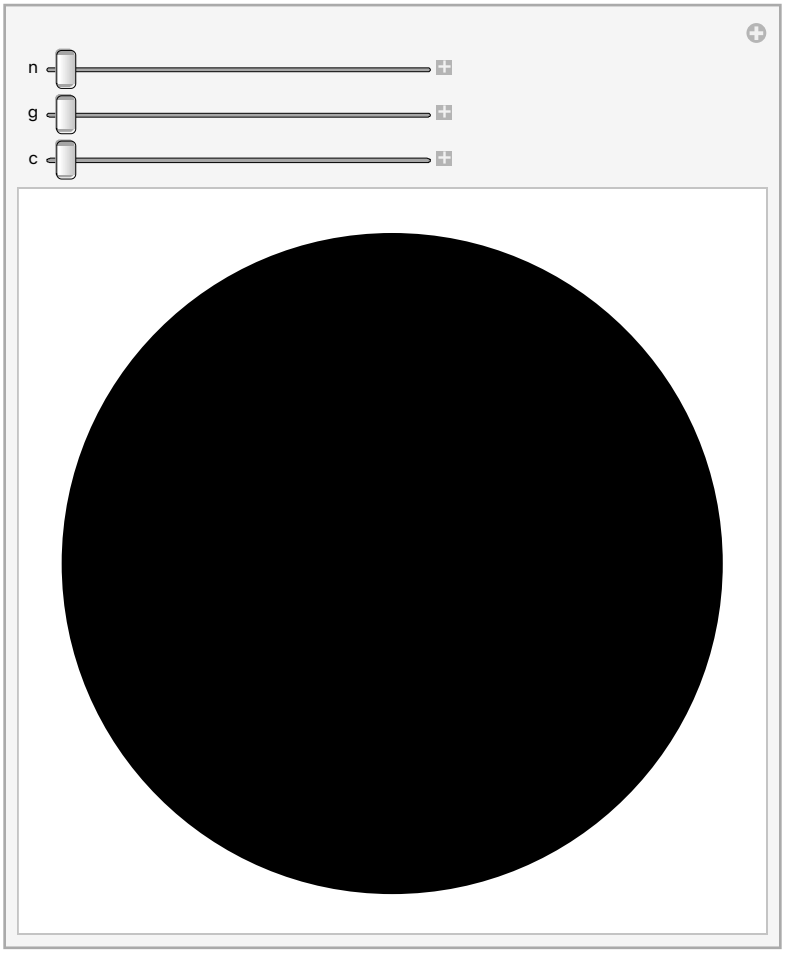
Out[326]=



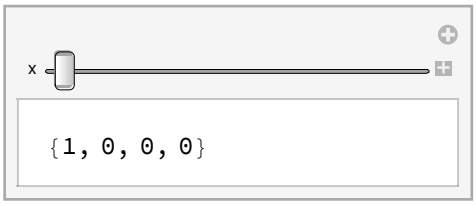
Out[327]=



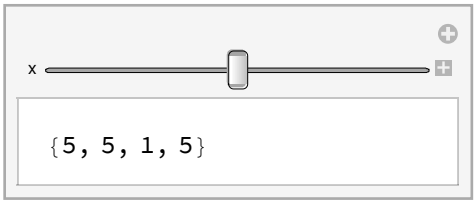
Out[328]=



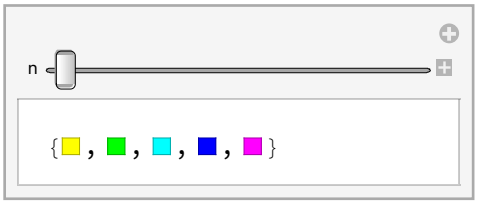
Out[329]=



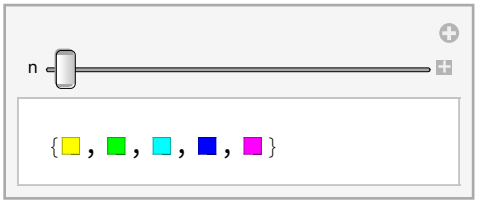
Out[330]=



Out[331]=



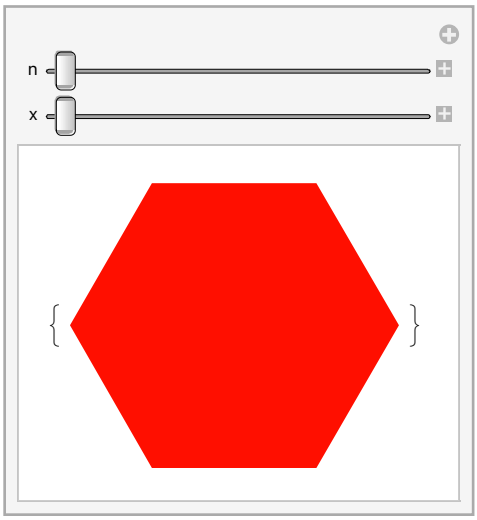
Out[332]=



In[333]:=

```
Manipulate[Table[Graphics[Style[RegularPolygon[6], Hue[n]]], {x}],
 {n, 0.01, 1}, {x, 1, 10}]
```

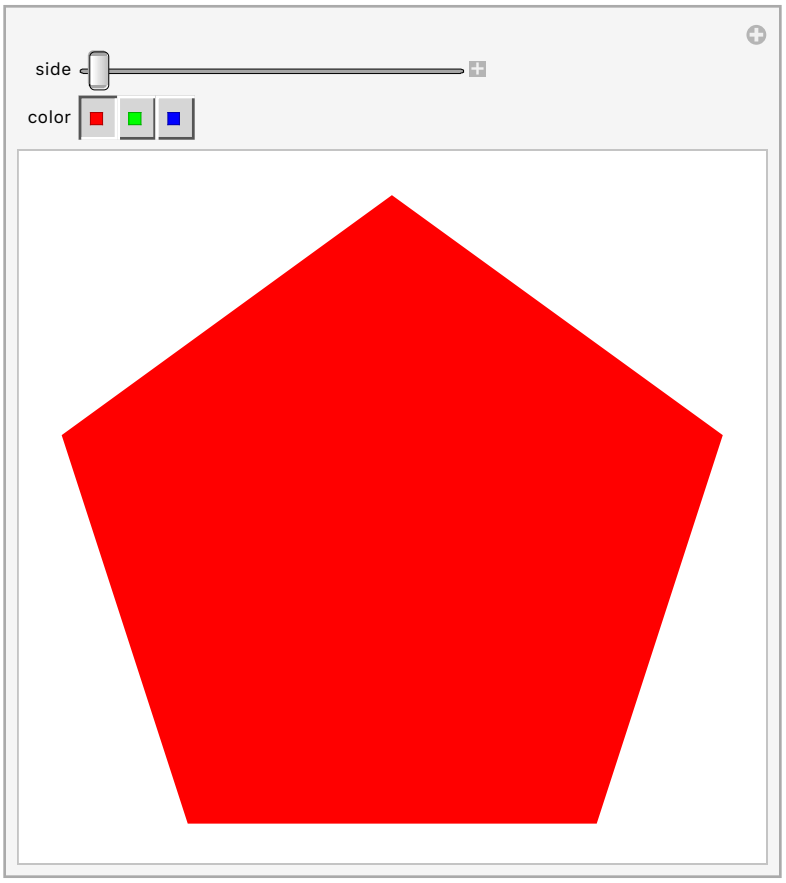
Out[333]=



In[334]:=

```
Manipulate[Graphics[Style[RegularPolygon[side], {color}]],
 {side, 5, 20}, {color, {Red, Green, Blue}}]
```

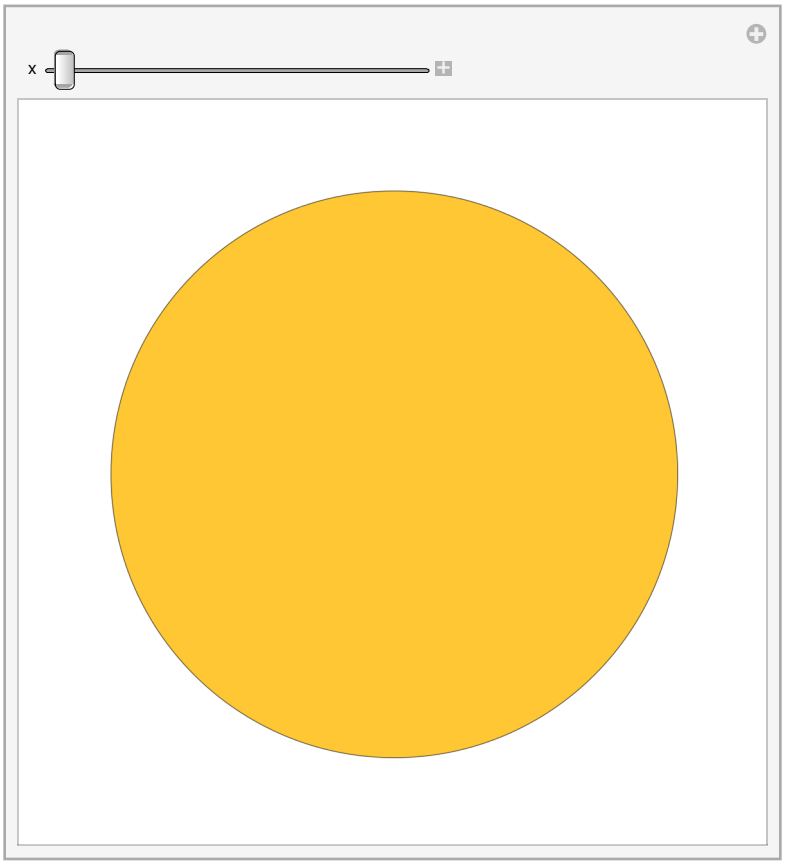
Out[334]=



In[335]:=

```
Manipulate[PieChart[Range[x]], {x, 1, 10}]
```

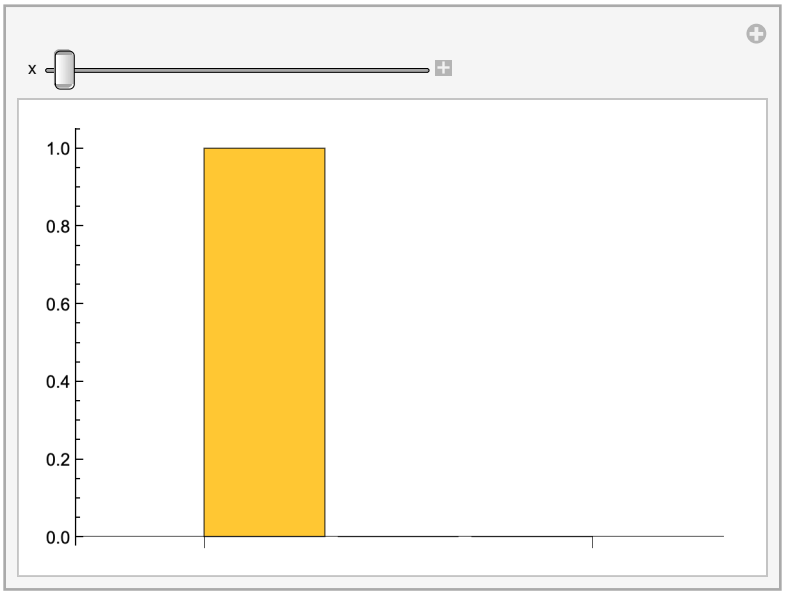
Out[335]=



In[336]:=

```
Manipulate[BarChart[IntegerDigits[x]], {x, 100, 999, 1}]
```

Out[336]=

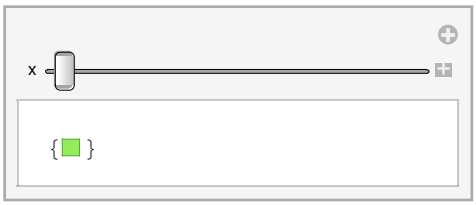


In[337]:=

In[338]:=

```
Manipulate[RandomColor[x], {x, 1, 50, 1}]
```

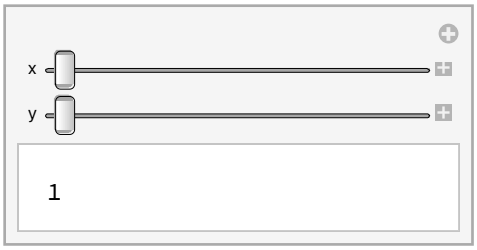
Out[338]=



In[339]:=

```
Manipulate[Column[x^Range[y]], {x, 1, 25, 1}, {y, 1, 10, 1}]
```

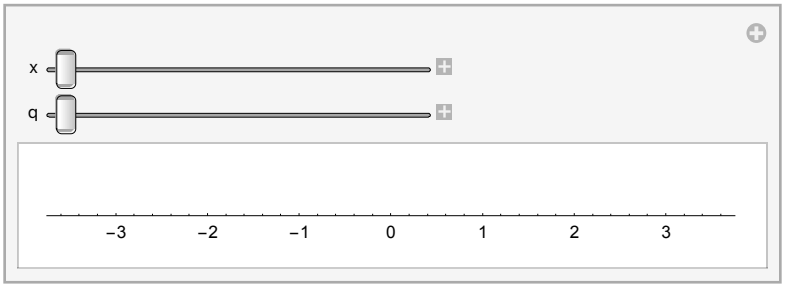
Out[339]=



In[340]:=

```
Manipulate[NumberLinePlot[{Range[x]^q}], {x, 0, 10}, {q, 0, 5}]
```

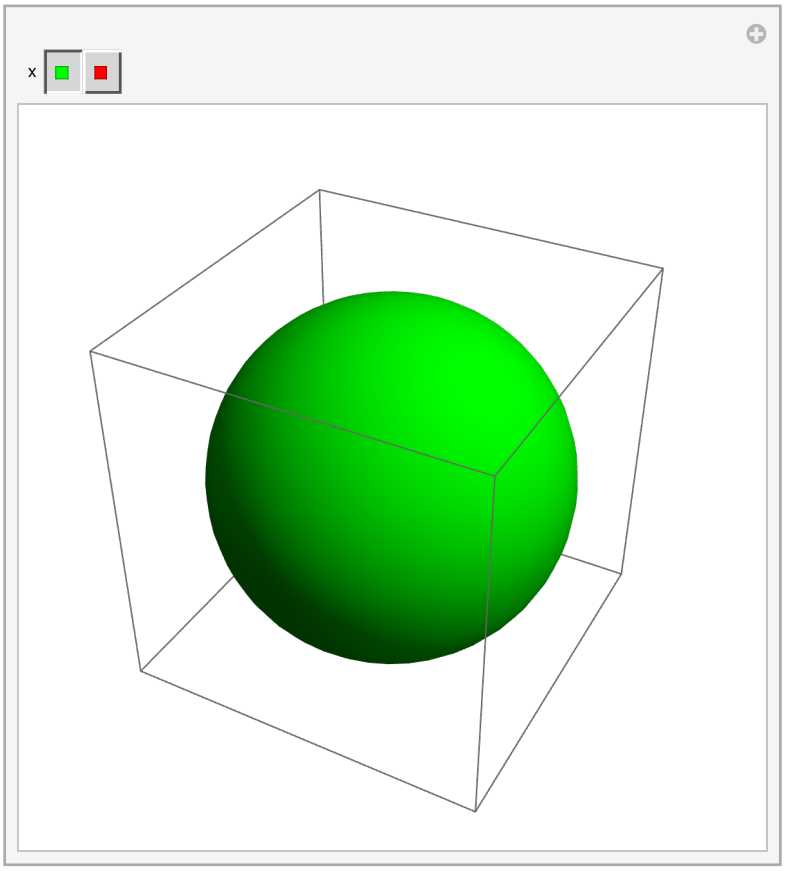
Out[340]=



In[341]:=

```
Manipulate[Graphics3D[Style[Sphere[], Hue[x]]], {x, {Green, Red}}]
```

Out[341]=



Chapter 10

In[342]:=

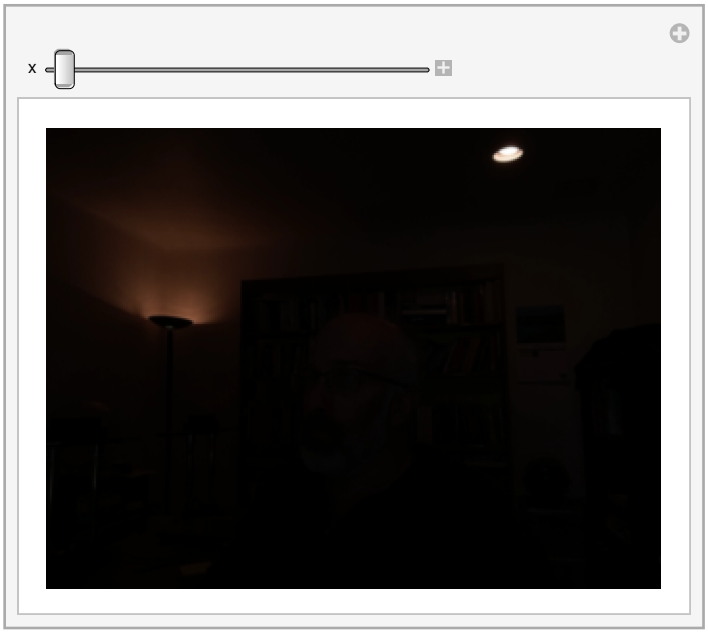
```
ColorNegate[EdgeDetect[CurrentImage[]]]
```

Out[342]=

In[343]:=

```
Manipulate[Blur[CurrentImage[], x], {x, 1, 20}]
```

Out[343]=



In[344]:=

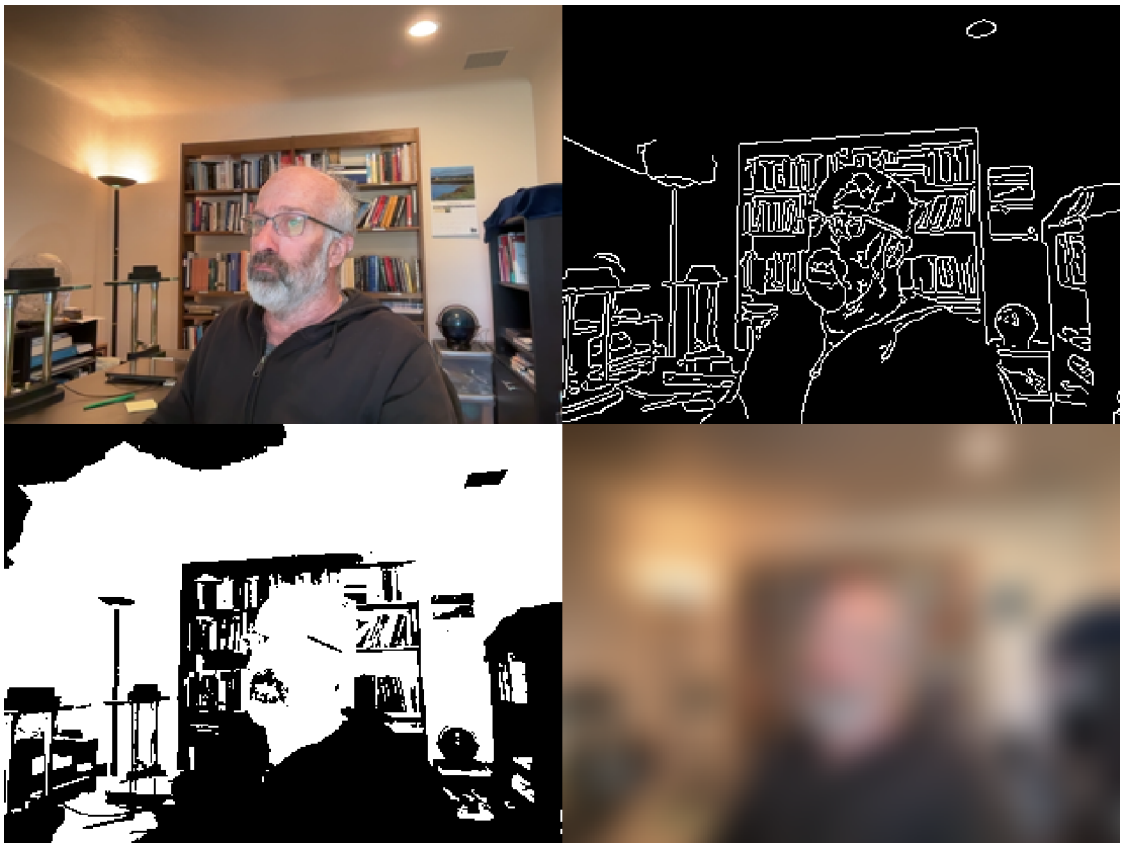
```
Table[Blur[EdgeDetect[CurrentImage[]], x], {x, 1, 10, 1}]
```

Out[344]=

In[345]:=

```
ImageCollage[{CurrentImage[], EdgeDetect[CurrentImage[]],
  Binarize[CurrentImage[]], Blur[CurrentImage[], 20]}]
```

Out[345]=



In[346]:=

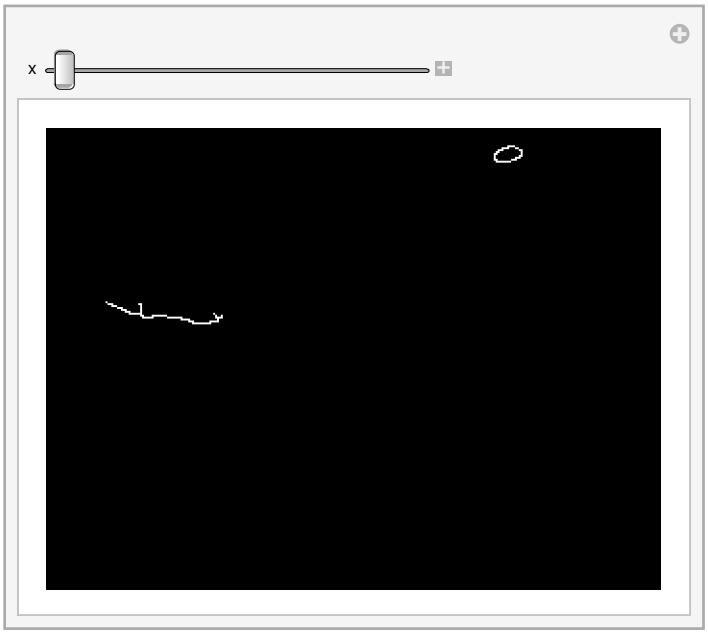
```
ImageAdd[CurrentImage[], EdgeDetect[CurrentImage[]]]
```

Out[346]=

In[347]:=

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

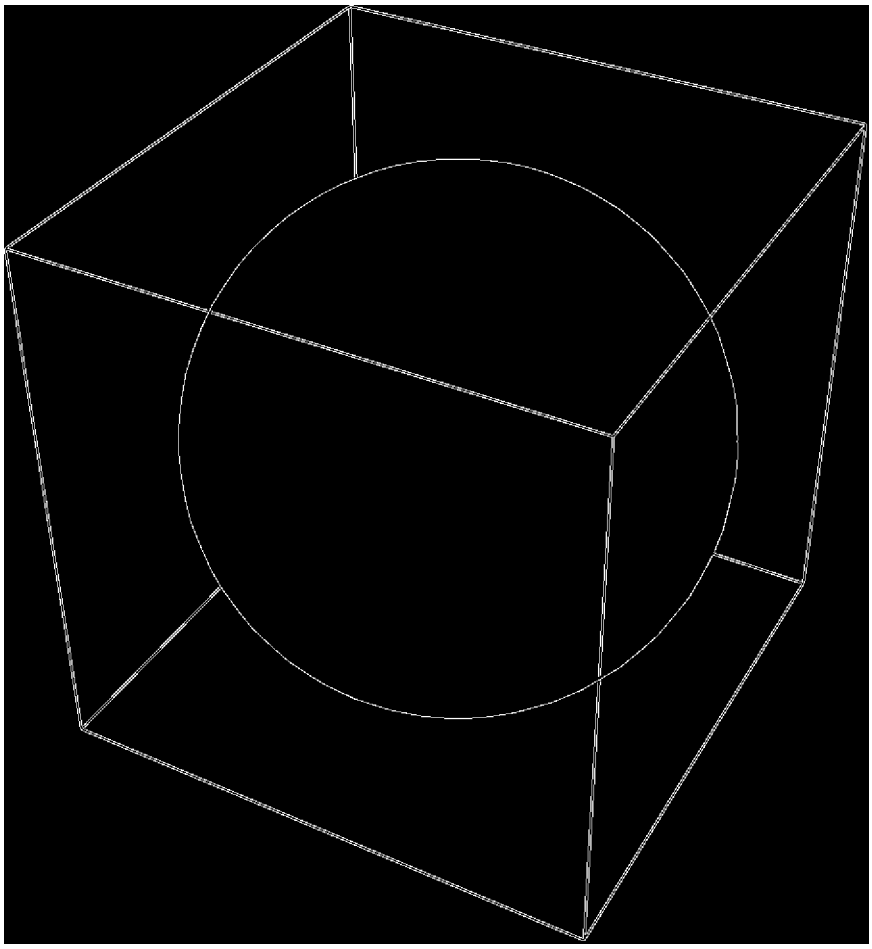
Out[347]=



In[348]:=

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

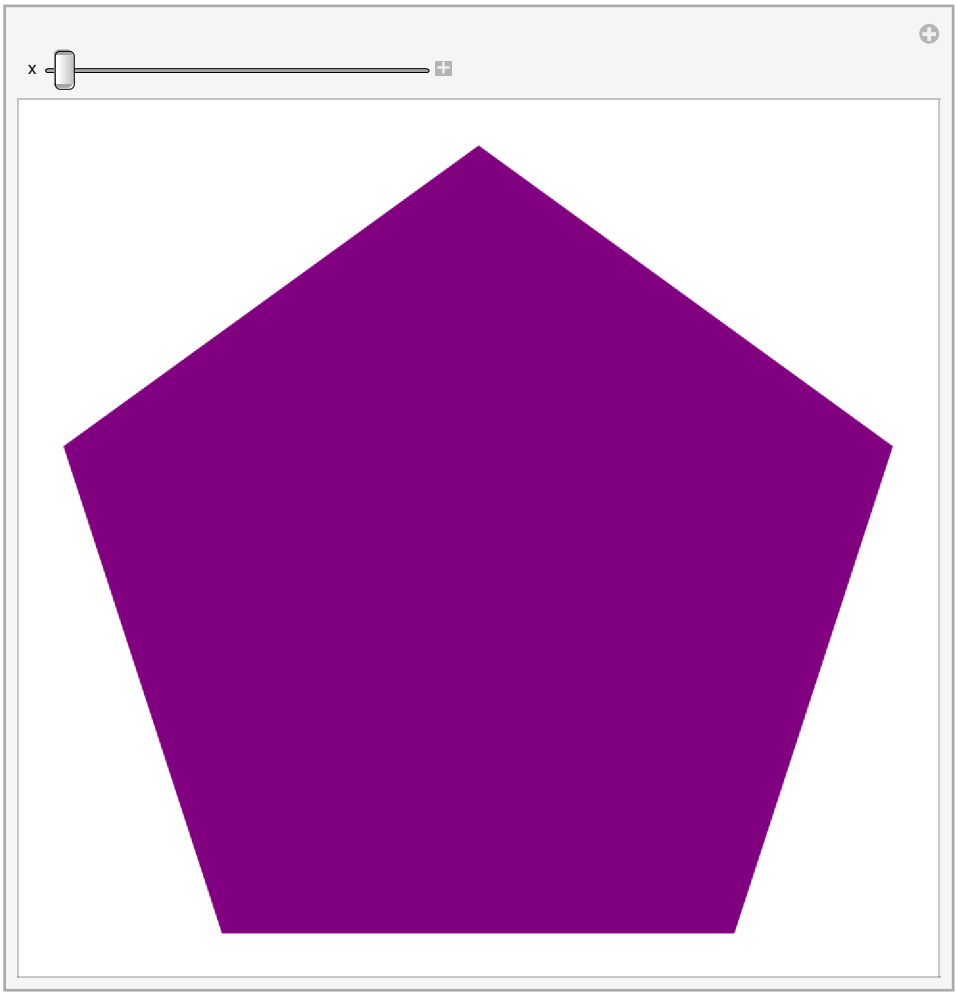
Out[348]=



In[349]:=

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

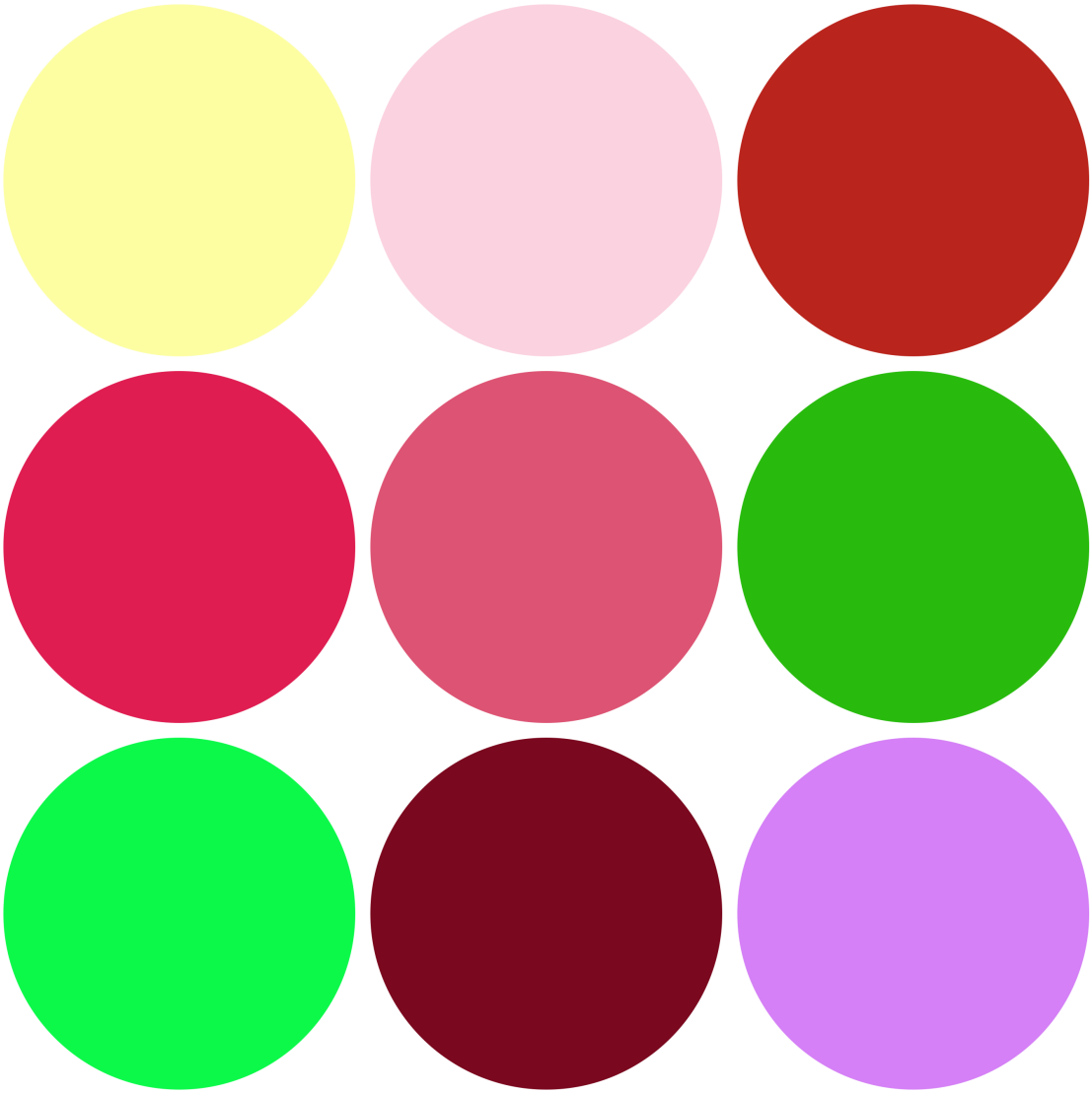
Out[349]=



In[350]:=

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

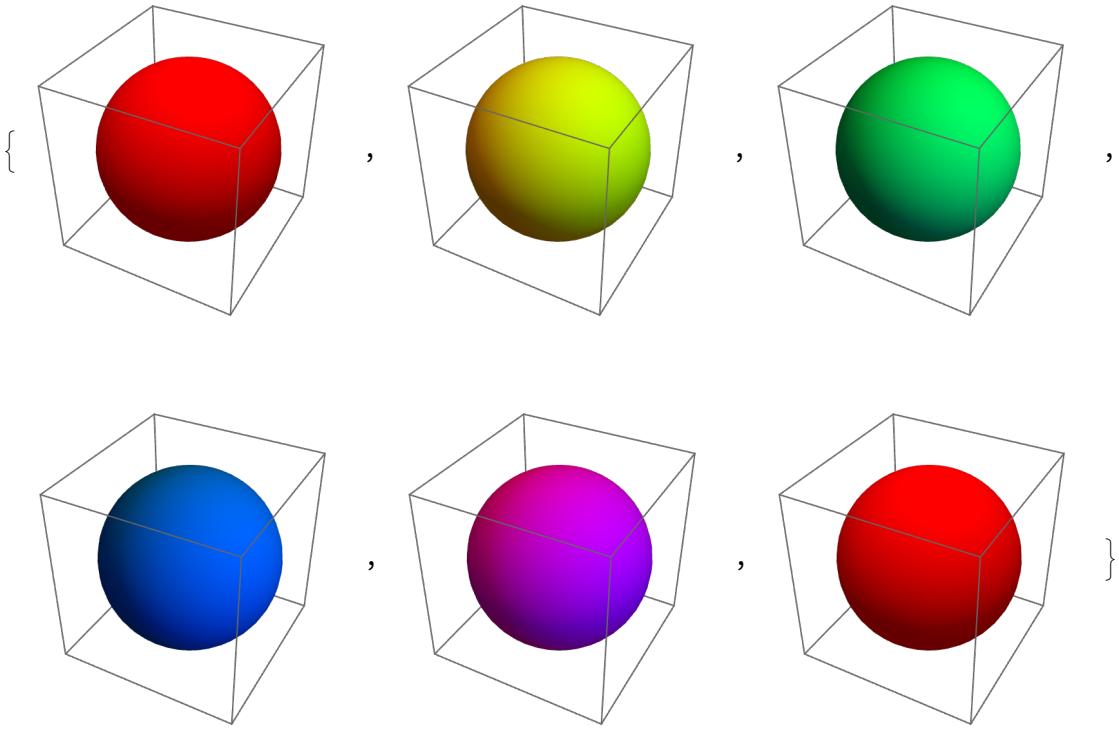
Out[350]=



In[351]:=

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

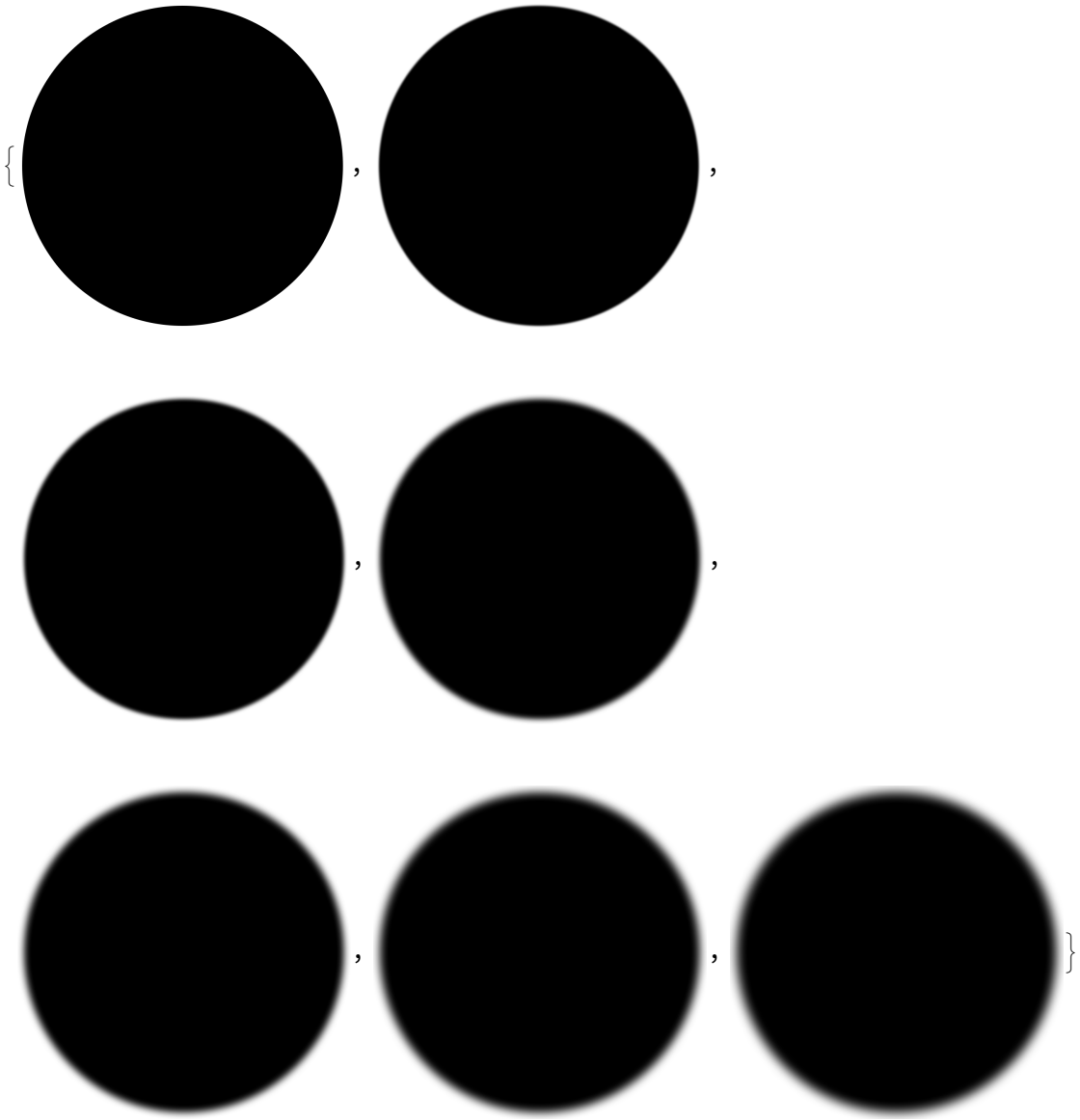
Out[351]=



In[352]:=

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

Out[352]=



Chapter 11 Problems 1-15

In[353]:=
```
ImageAdd[{CurrentImage[], Graphics[Disk[]]}]
```
Out[353]=

In[354]:=
```
ImageAdd[{CurrentImage[], Graphics[Style[RegularPolygon[8], Red]]}]
```
Out[354]=

In[355]:=
```
ImageAdd[ColorNegate[EdgeDetect[CurrentImage[]]], CurrentImage[]]
```
Out[355]=

In[356]:=
```
StringJoin["Hello", "Hello"]
```
Out[356]=
```
HelloHello
```

In[357]:=
```
StringJoin[ToUpperCase[{Alphabet[]}]]
```
Out[357]=
```
ABCDEFGHIJKLMNOPQRSTUVWXYZ
```

In[358]:=
```
StringReverse[StringJoin[{Alphabet[]}]]
```
Out[358]=
```
zyxwvutsrqponmlkjihgfedcba
```

In[359]:=
```
StringJoin[Table["AGCT", {100}]]
```
Out[359]=
```
AGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTA∗
    GCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGC∗
    TAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTA∗
    GCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGC∗
    TAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTA∗
    GCTAGCT
```

In[360]:=
```
StringTake[StringJoin[Alphabet[]], 6]
```
Out[360]=
```
abcdef
```

In[361]:=

```
Column[StringTake["This is About Strings",
  Range[StringLength["This is About Strings"]]]]
```

StringTake: Warning: interpreting list of integers as a list of sequence specifications.

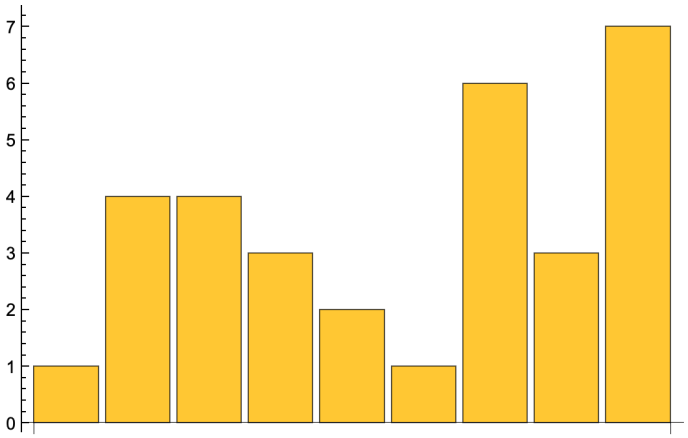
Out[361]=

```
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[362]:=

```
BarChart[StringLength[TextWords["A long time ago, in a galazy far, faraway"]]]
```

Out[362]=



In[363]:=

```
StringLength[{WikipediaData["Computer"]}]
```

Out[363]=

```
{60 266}
```

In[364]:=
```
Length[TextWords[WikipediaData["computer"]]]
```
Out[364]=
```
9271
```

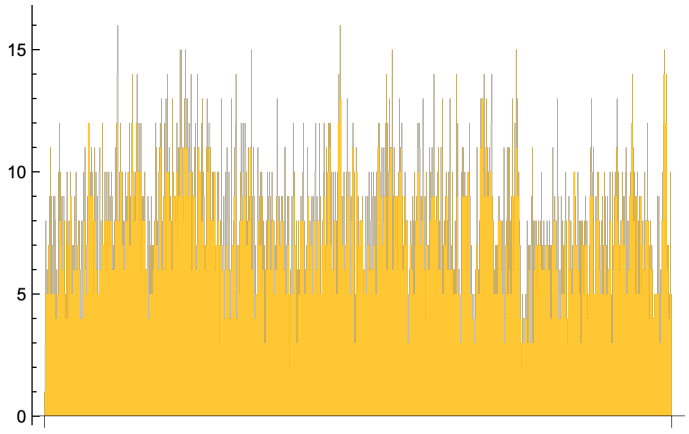
In[365]:=
```
First[TextSentences[WikipediaData["strings"]]]
```
Out[365]=
```
String or strings may refer to:
```

In[366]:=
```
StringJoin[StringTake[TextSentences[WikipediaData["computers"]], 1]]
```
Out[366]=
```
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[367]:=
```
Max[StringLength[WordList[]]]
```
Out[367]=
```
23
```

In[368]:=
```
Count[StringTake[WordList[], 1], "q"]
```
Out[368]=
```
194
```

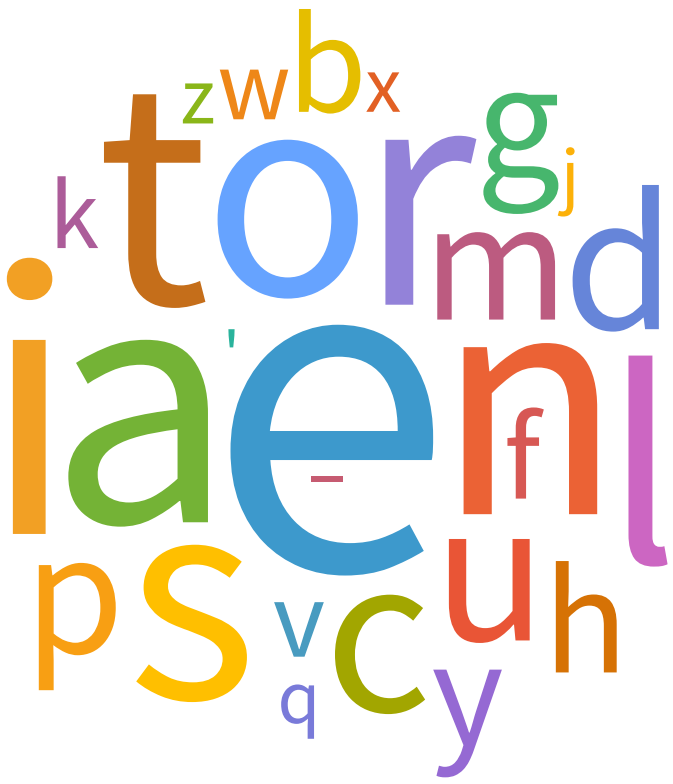
In[369]:=
```
BarChart[Take[StringLength[WordList[]], 1000]]
```
Out[369]=



In[370]:=

```
WordCloud[Characters[StringJoin[WordList[]]]]
```

Out[370]=



In[371]:=

In[372]:=

In[373]:=

In[374]:=

In[375]:=