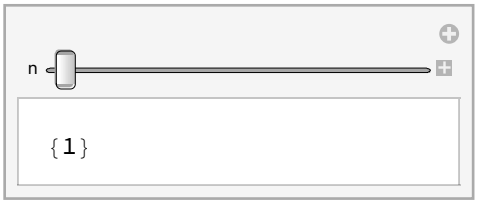
Tahm — PS 3 — 2025-01-24

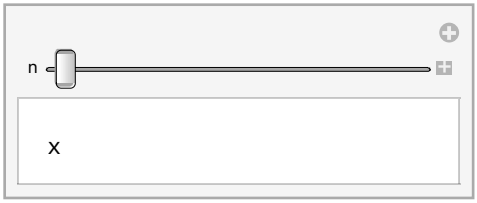
Chapter 9

In[1]:=

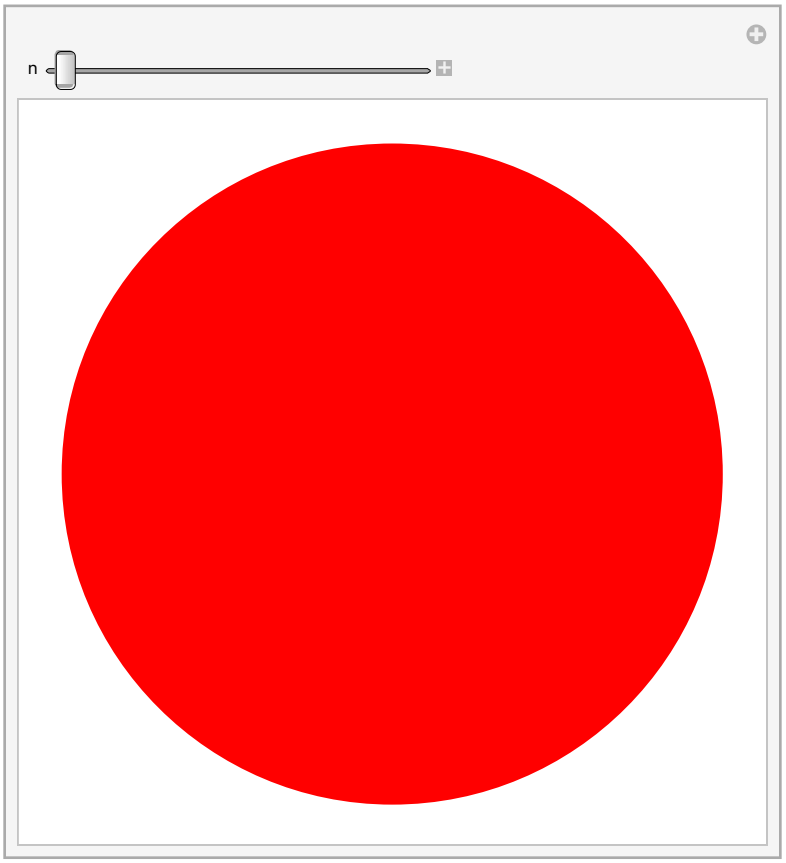
```
Manipulate[Range[n], {n, 1, 100, 1}]
```



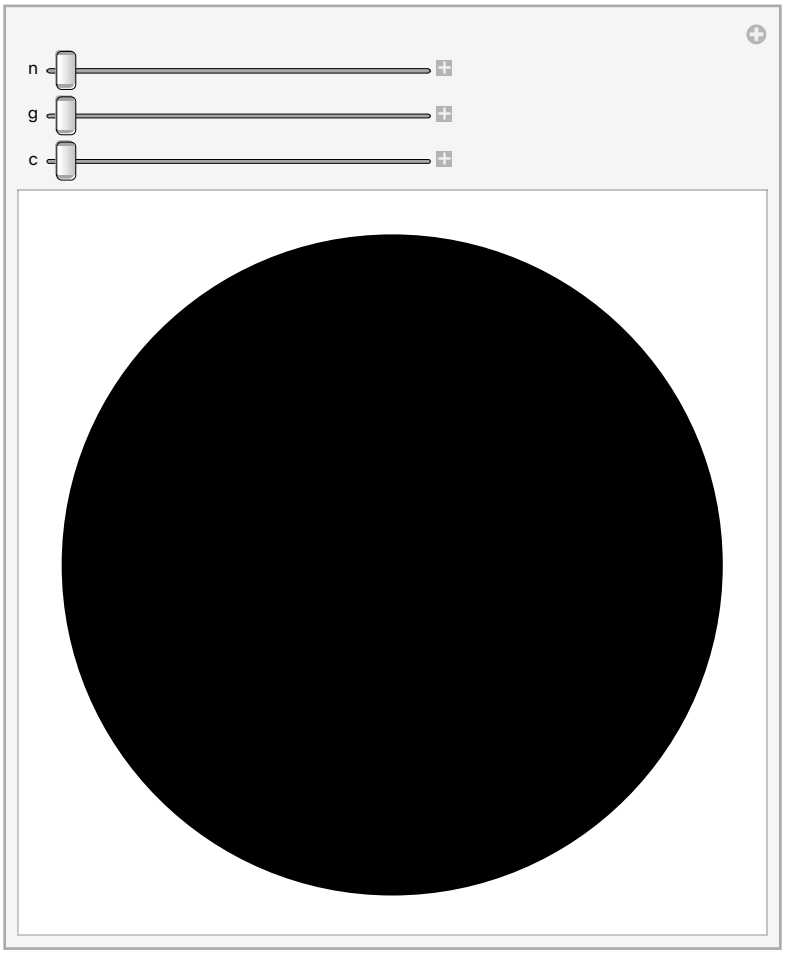

```
Manipulate[Column[Table[x, n]], {n, 1, 10, 1}]
```



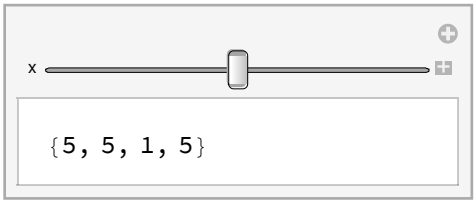

```
Manipulate[Graphics[Style[Disk[], Hue[n]]], {n, 0, 1}]
```



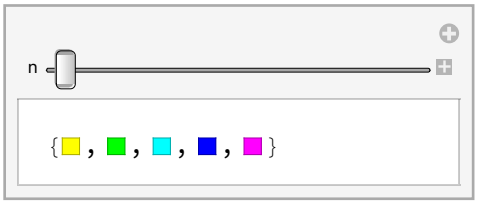

```
Manipulate[Graphics[Style[Disk[], RGBColor[n, g, c]]],
 {n, 0, 1}, {g, 0, 1}, {c, 0, 1}]
```



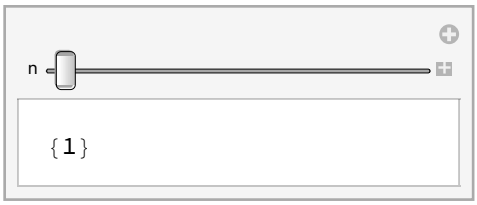

```
Manipulate[IntegerDigits[x], {x, 1000, 9999, 1}]
```



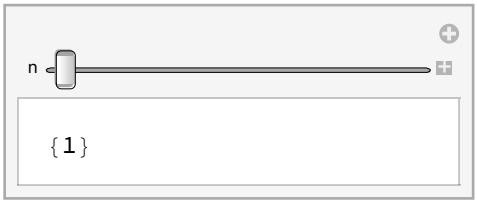

```
Manipulate[Table[Hue[RGB / n], {RGB, n - 1}], {n, 6, 50, 1}]
```



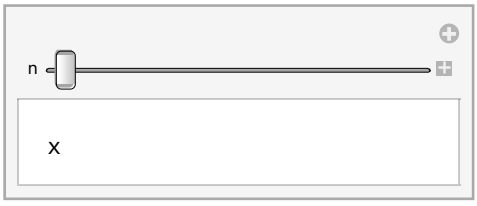
Out[1]=



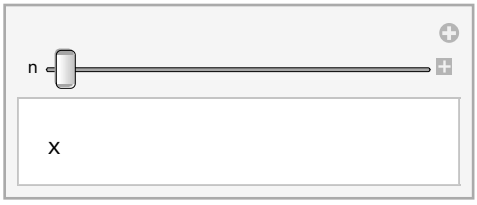
Out[2]=



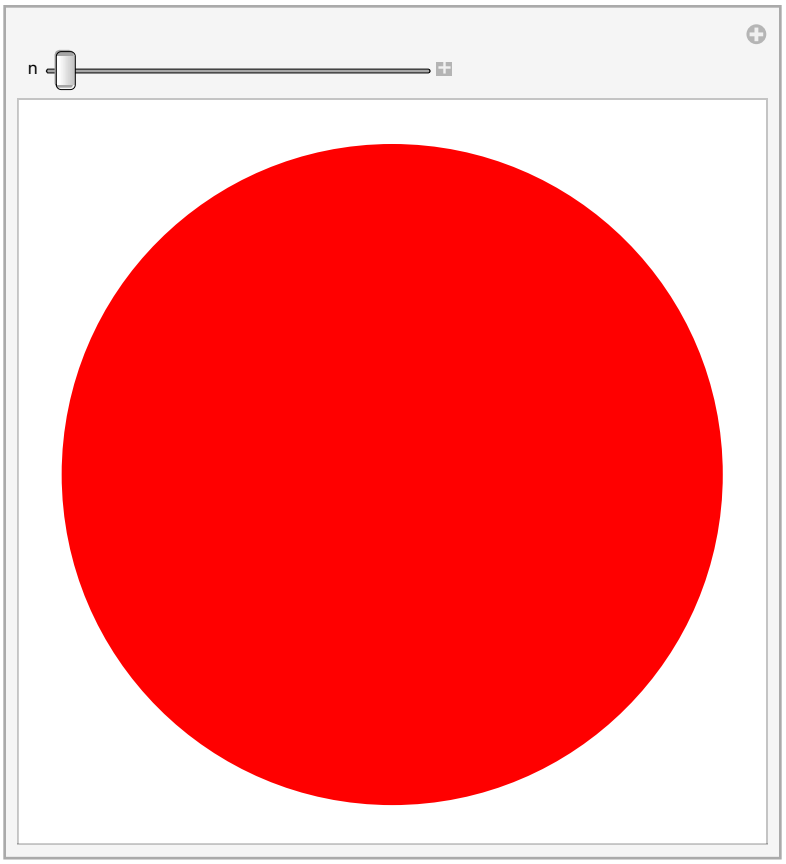
Out[3]=



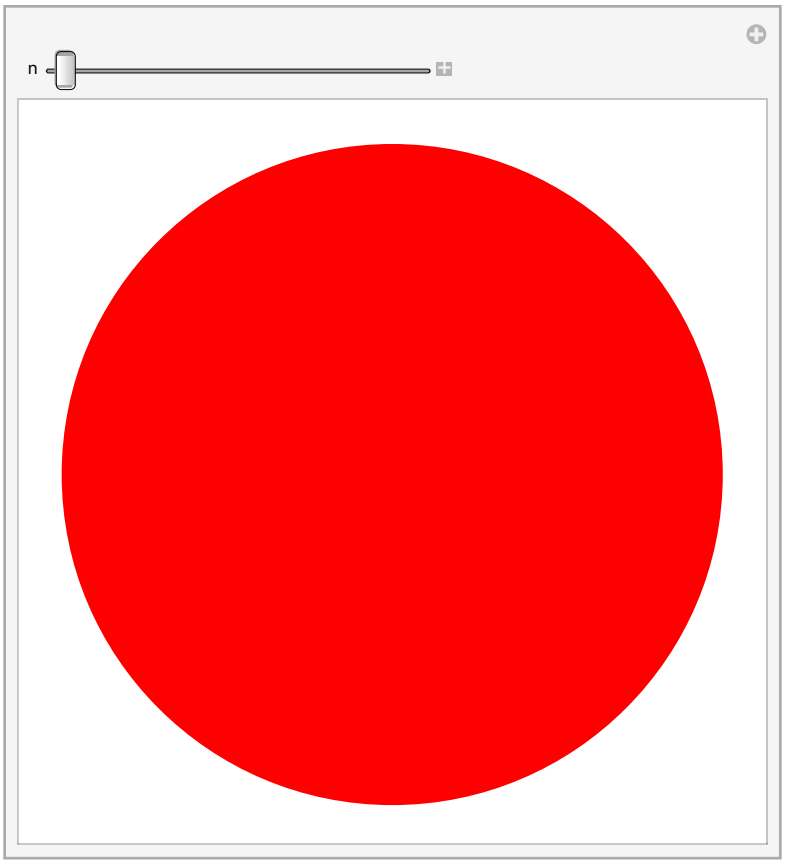
Out[4]=



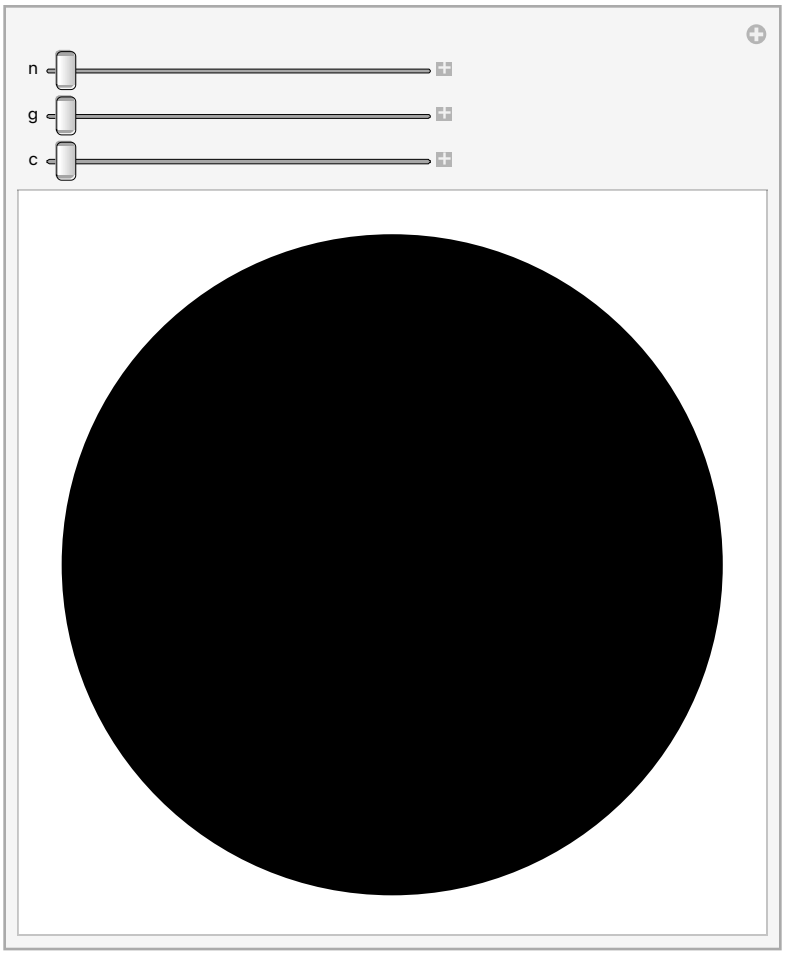
Out[5]=



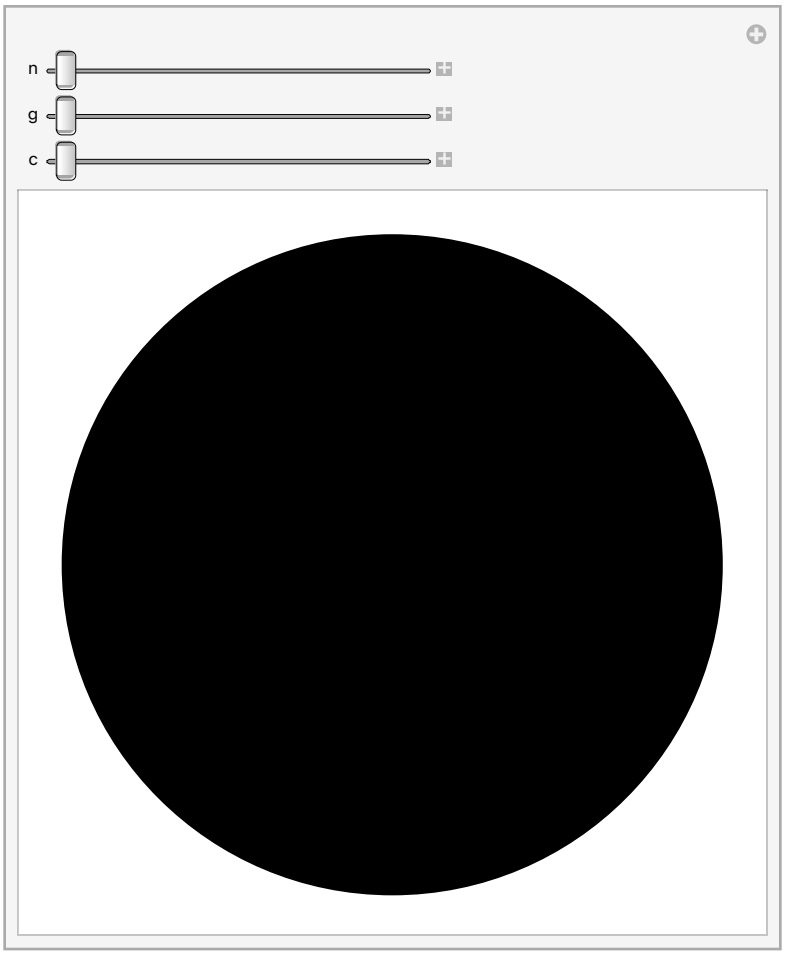
Out[6]=



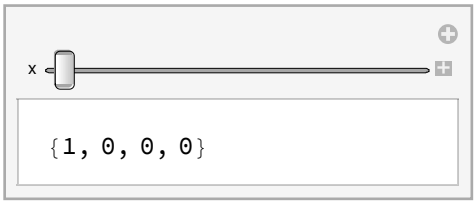
Out[7]=



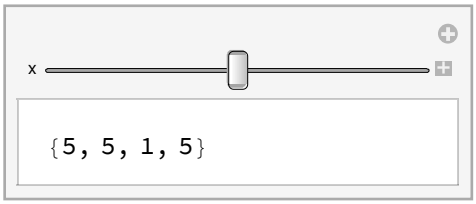
Out[8]=



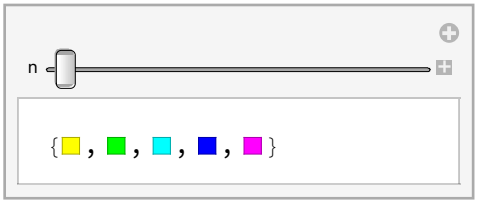
Out[9]=



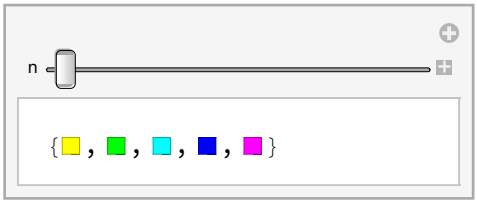
Out[10]=



Out[11]=

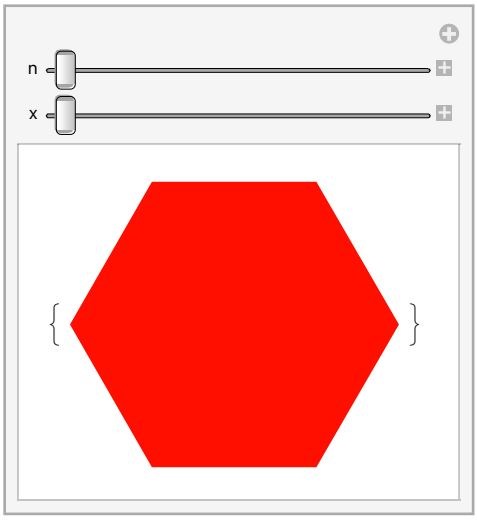


Out[12]=



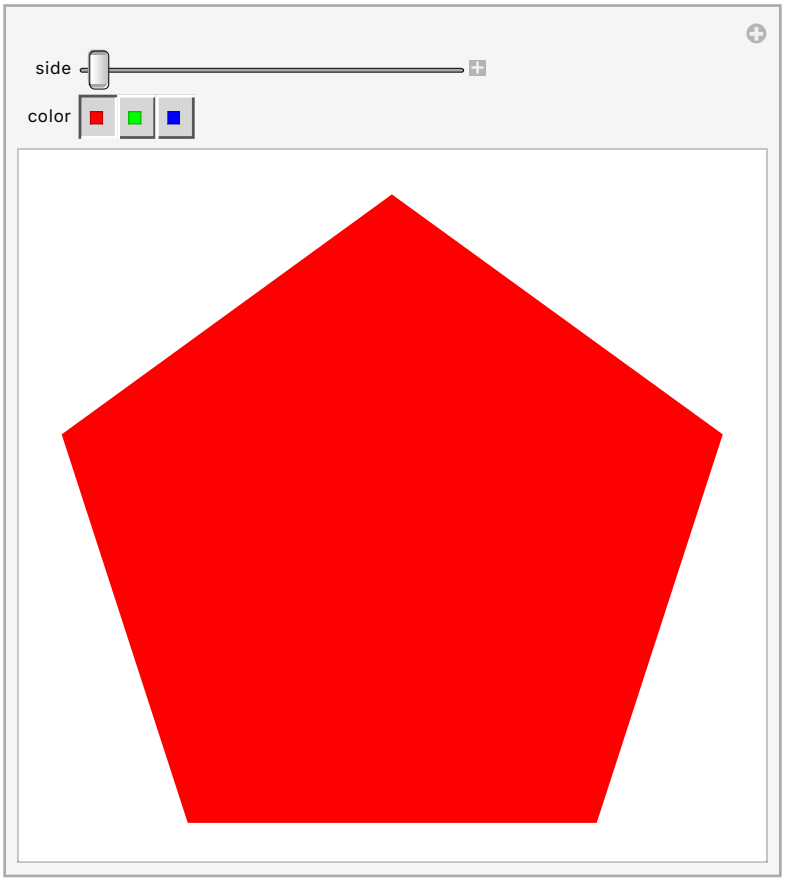
In[13]:=
```
Manipulate[Table[Graphics[Style[RegularPolygon[6], Hue[n]]], {x}],
 {n, 0.01, 1}, {x, 1, 10}]
```

Out[13]=



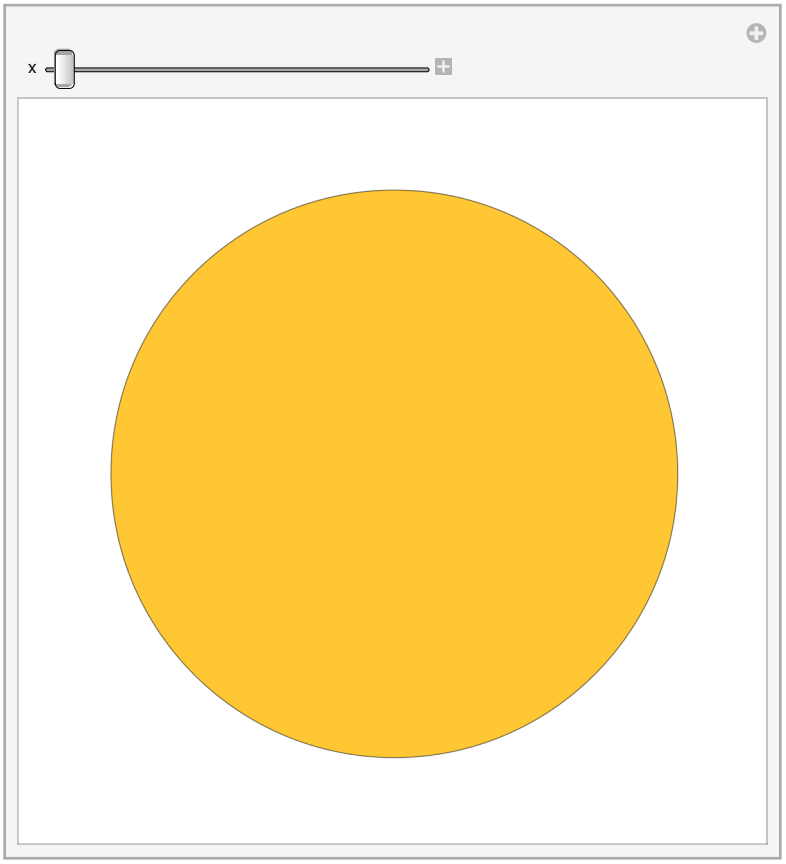
In[14]:=
```
Manipulate[Graphics[Style[RegularPolygon[side], {color}]],
 {side, 5, 20}, {color, {Red, Green, Blue}}]
```

Out[14]=



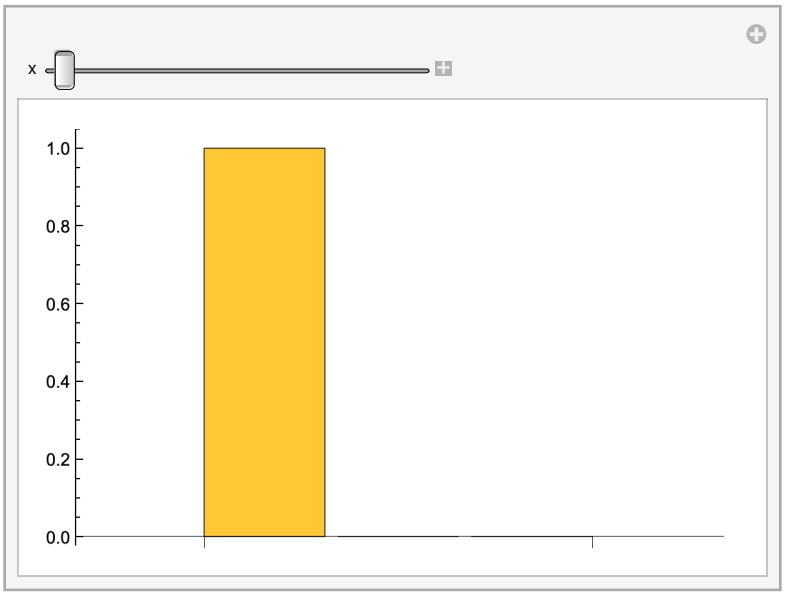
In[15]:=
```
Manipulate[PieChart[Range[x]], {x, 1, 10}]
```

Out[15]=



In[16]:=
```
Manipulate[BarChart[IntegerDigits[x]], {x, 100, 999, 1}]
```

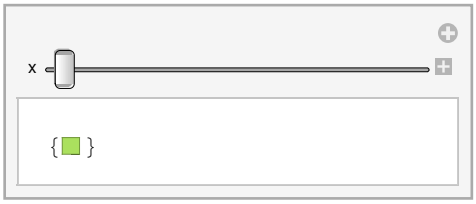
Out[16]=



In[17]:=

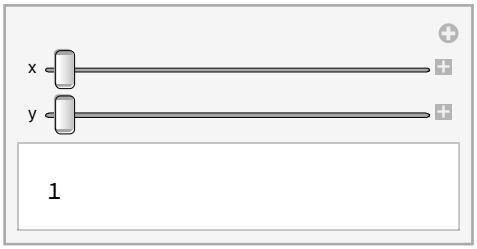
In[18]:=
```
Manipulate[RandomColor[x], {x, 1, 50, 1}]
```

Out[18]=



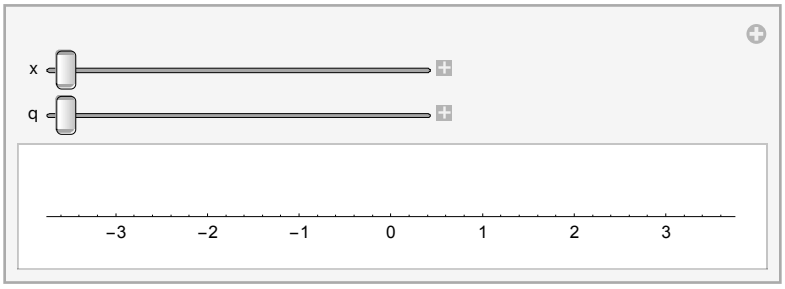
In[19]:=
```
Manipulate[Column[x^Range[y]], {x, 1, 25, 1}, {y, 1, 10, 1}]
```

Out[19]=



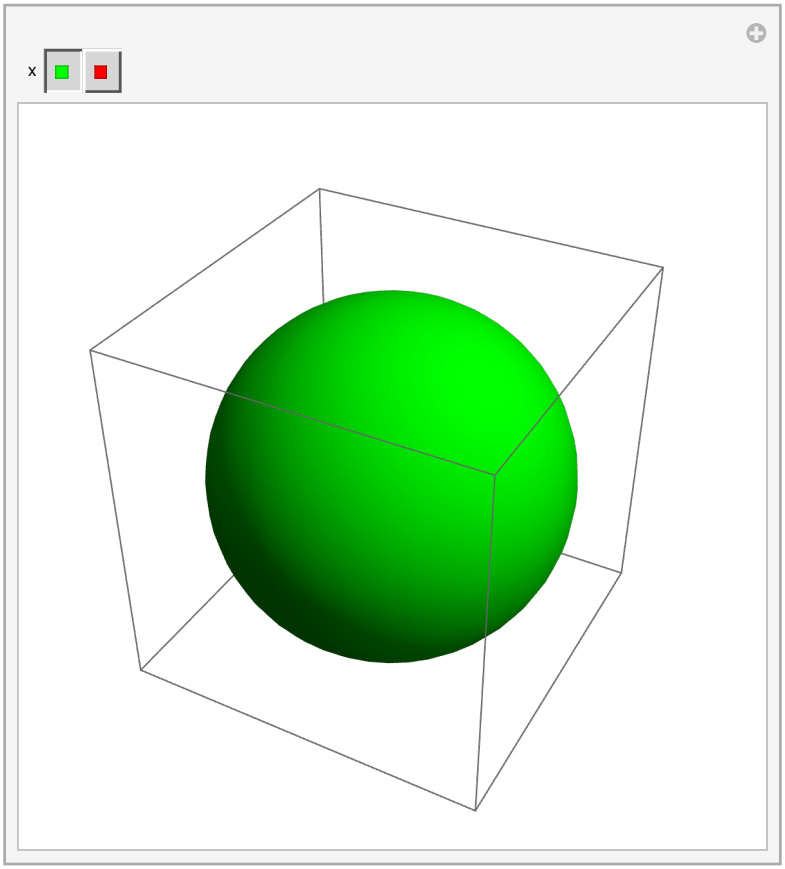
In[20]:=
```
Manipulate[NumberLinePlot[{Range[x]^q}], {x, 0, 10}, {q, 0, 5}]
```

Out[20]=



In[21]:=
```
Manipulate[Graphics3D[Style[Sphere[], Hue[x]]], {x, {Green, Red}}]
```

Out[21]=



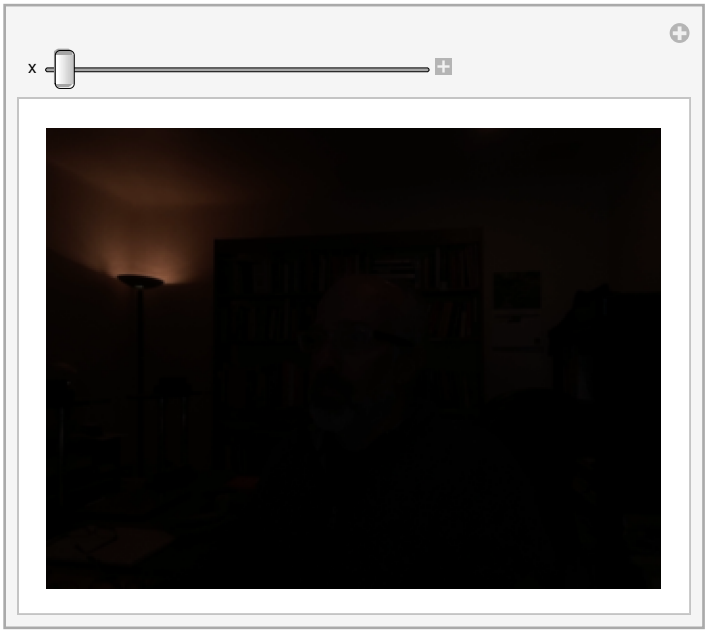
Chapter 10

In[22]:=
```
ColorNegate[EdgeDetect[CurrentImage[]]]
```

Out[22]=

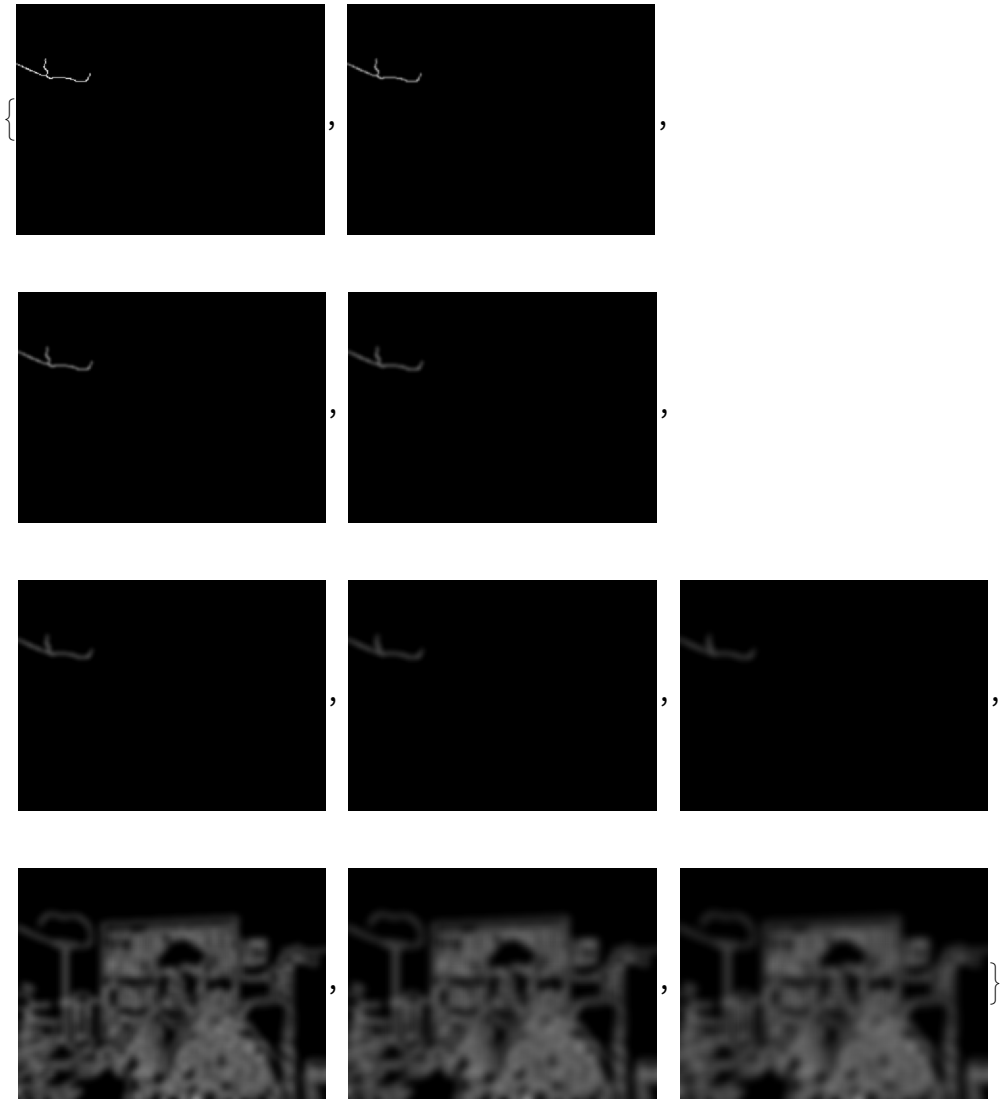
In[23]:=
```
Manipulate[Blur[CurrentImage[], x], {x, 1, 20}]
```

Out[23]=



In[24]:=
```
Table[Blur[EdgeDetect[CurrentImage[]], x], {x, 1, 10, 1}]
```

Out[24]=



In[25]:=
```
ImageCollage[{CurrentImage[], EdgeDetect[CurrentImage[]],
  Binarize[CurrentImage[]], Blur[CurrentImage[], 20]}]
```

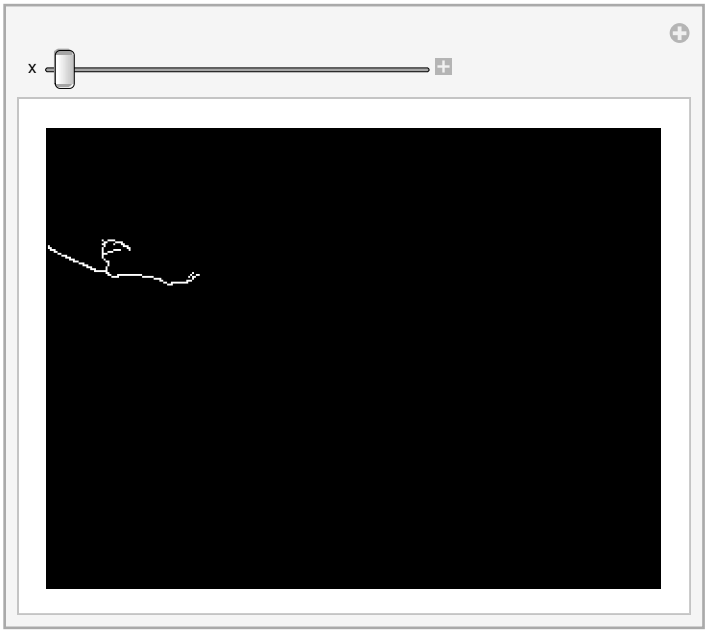
Out[25]=

In[26]:=
```
ImageAdd[CurrentImage[], EdgeDetect[CurrentImage[]]]
```

Out[26]=

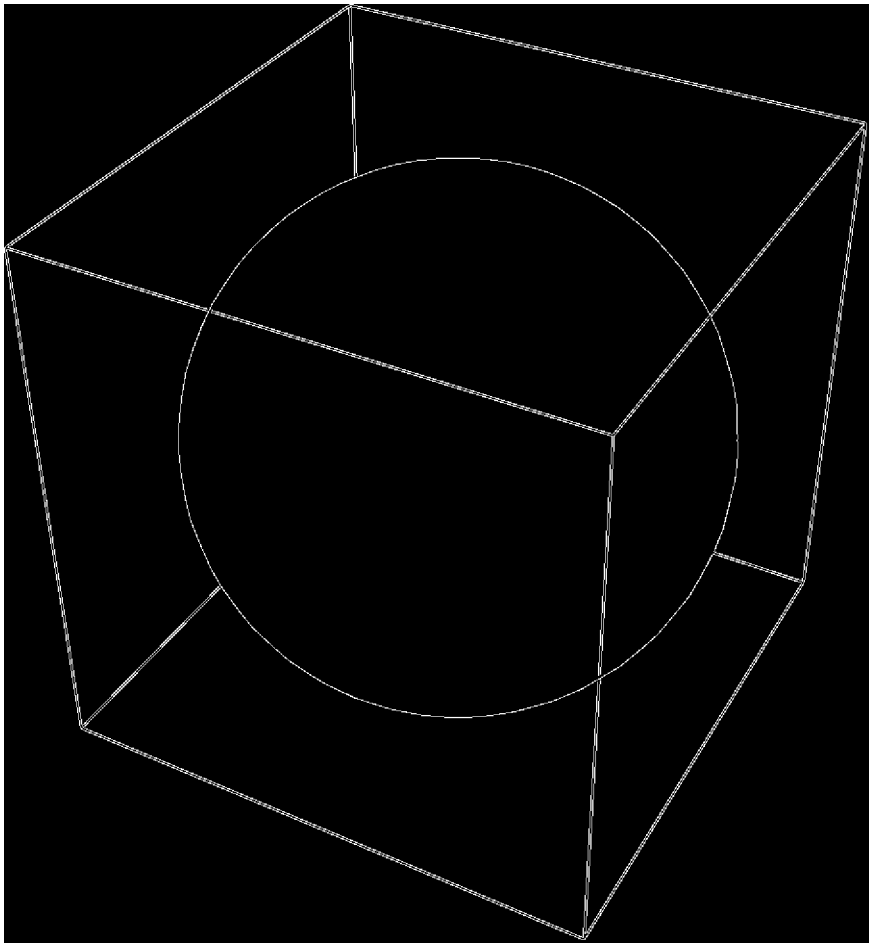
In[27]:=
```
Manipulate[EdgeDetect[Blur[CurrentImage[]], x], {x, 1, 20}]
```

Out[27]=



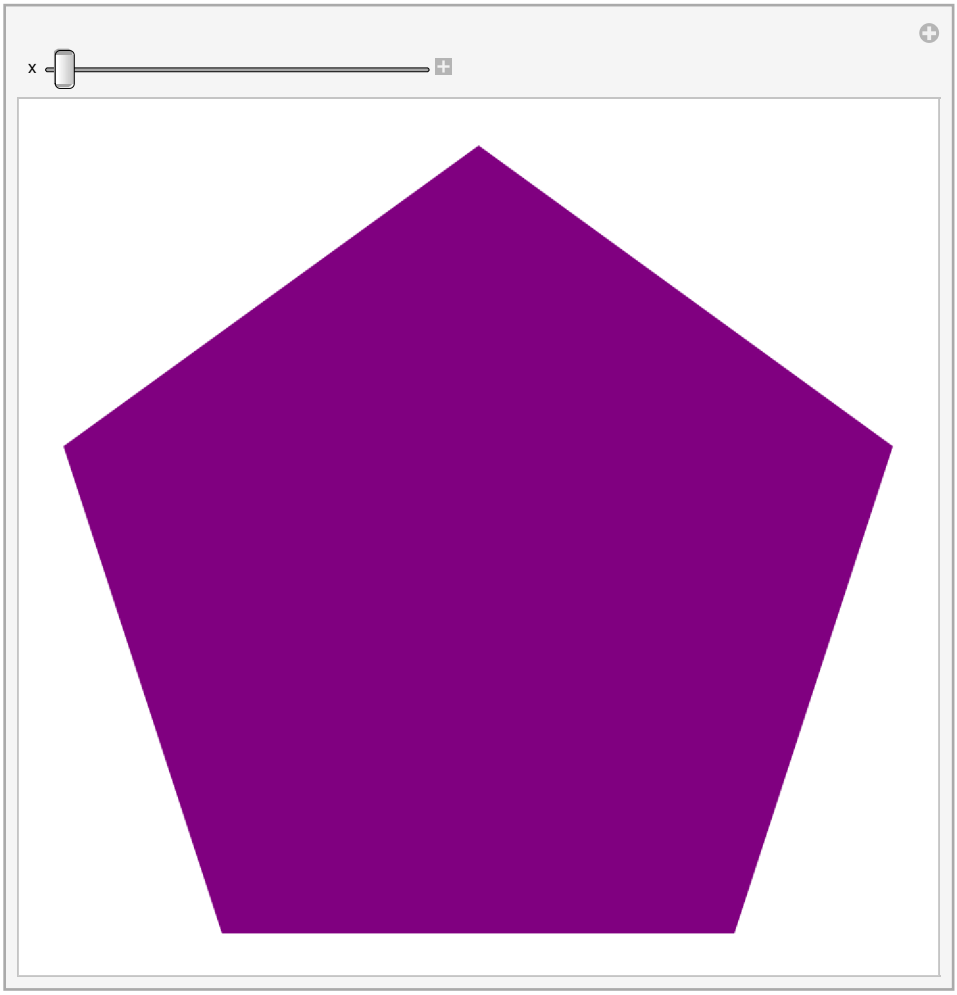
In[28]:=
```
EdgeDetect[Graphics3D[Sphere[]]]
```

Out[28]=



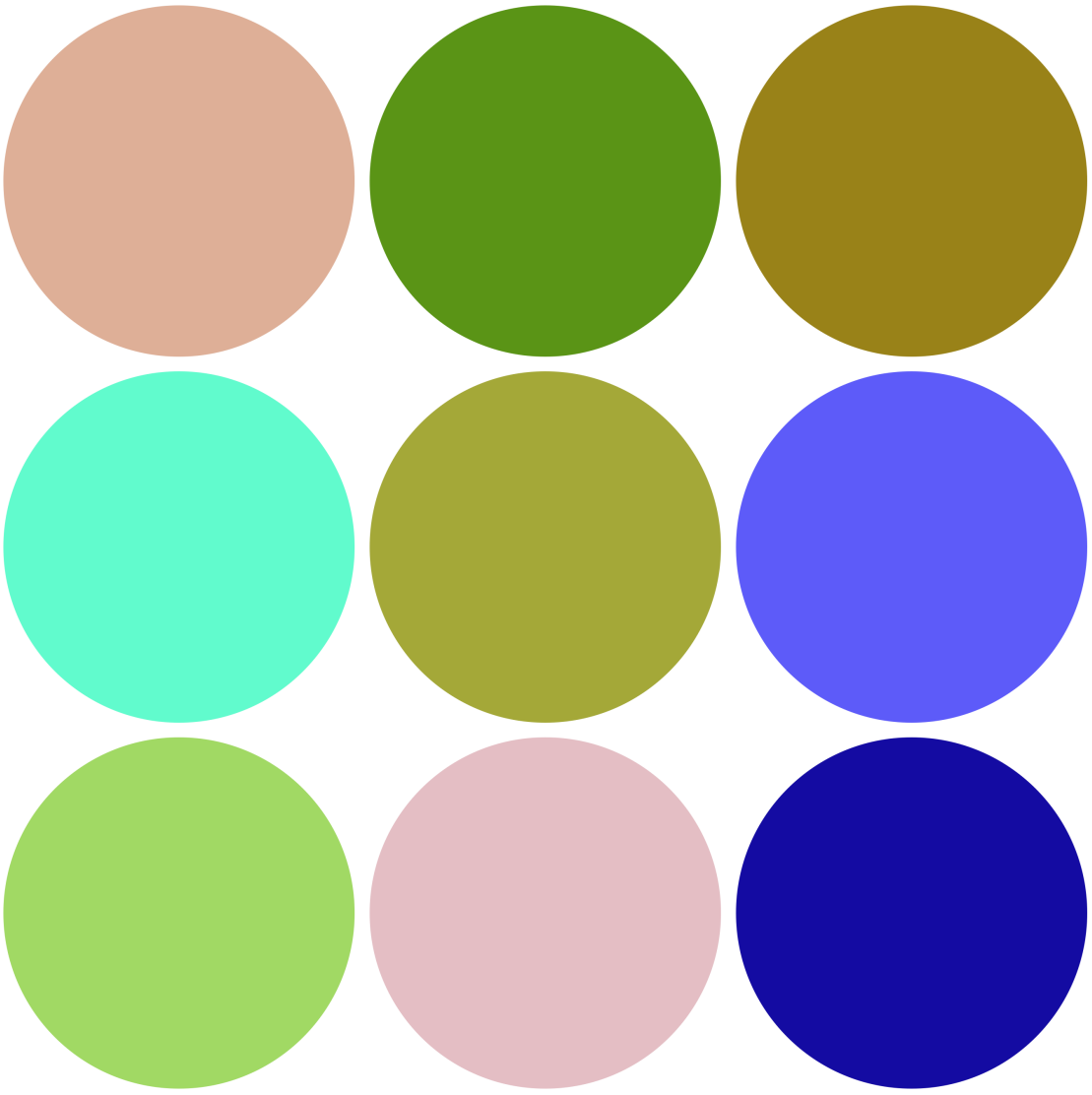
In[29]:=
```
Manipulate[Blur[Graphics[Style[RegularPolygon[5], Purple]], x], {x, 0, 20}]
```

Out[29]=



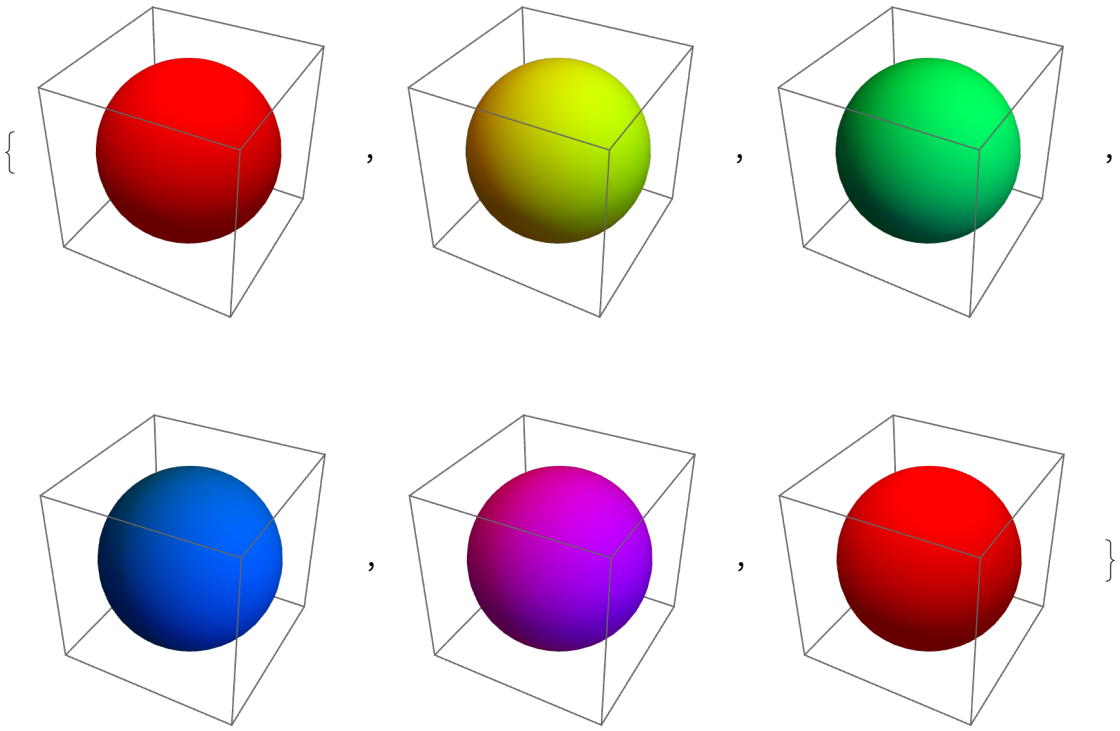
In[30]:=
```
ImageCollage[Table[Graphics[Style[Disk[], RandomColor[]]], 9]]
```

Out[30]=



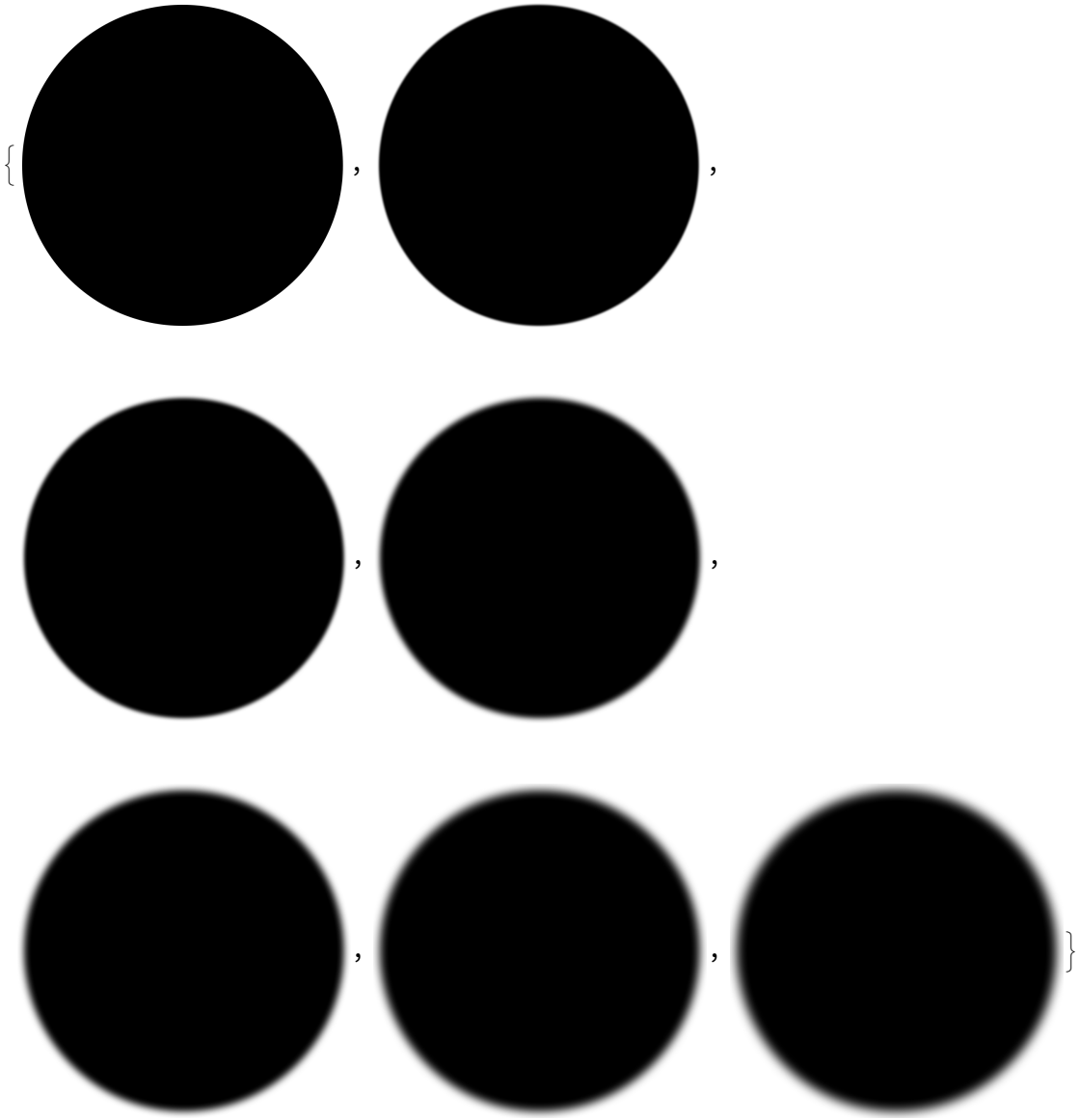
In[31]:=
```
Table[Graphics3D[Style[Sphere[], Hue[x]]], {x, 0, 1, 0.2}]
```

Out[31]=



In[32]:=
```
Table[Blur[Graphics[Disk[]], x], {x, 0, 30, 5}]
```

Out[32]=



Chapter 11 Problems 1-15

In[33]:=
```
ImageAdd[{CurrentImage[], Graphics[Disk[]]}]
```

Out[33]=

In[34]:=
```
ImageAdd[{CurrentImage[], Graphics[Style[RegularPolygon[8], Red]]}]
```

Out[34]=

In[35]:=
```
ImageAdd[ColorNegate[EdgeDetect[CurrentImage[]]], CurrentImage[]]
```
Out[35]=

In[36]:=
```
StringJoin["Hello", "Hello"]
```
Out[36]=
```
HelloHello
```

In[37]:=
```
StringJoin[ToUpperCase[{Alphabet[]}]]
```
Out[37]=
```
ABCDEFGHIJKLMNOPQRSTUVWXYZ
```

In[38]:=
```
StringReverse[StringJoin[{Alphabet[]}]]
```
Out[38]=
```
zyxwvutsrqponmlkjihgfedcba
```

In[39]:=
```
StringJoin[Table["AGCT", {100}]]
```
Out[39]=
```
AGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTA»
    GCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGC»
    TAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTA»
    GCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGC»
    TAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTAGCTA»
    GCTAGCT
```

In[40]:=
```
StringTake[StringJoin[Alphabet[]], 6]
```
Out[40]=
```
abcdef
```

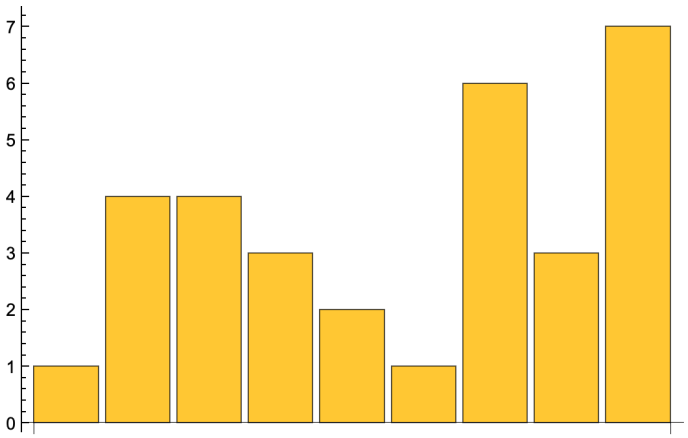
In[41]:=
```
Column[StringTake["This is About Strings",
  Range[StringLength["This is About Strings"]]]]
```

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

Out[41]=
```
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[42]:=
```
BarChart[StringLength[TextWords["A long time ago, in a galazy far, faraway"]]]
```

Out[42]=



In[43]:=
```
StringLength[{WikipediaData["Computer"]}]
```

Out[43]=
```
{60 266}
```

In[44]:=
```
Length[TextWords[WikipediaData["computer"]]]
```

Out[44]=
```
9271
```

In[45]:=
```
First[TextSentences[WikipediaData["strings"]]]
```

Out[45]=
```
String or strings may refer to:
```

In[46]:=
```
StringJoin[StringTake[TextSentences[WikipediaData["computers"]], 1]]
```

Out[46]=
```
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[47]:=
```
Max[StringLength[WordList[]]]
```

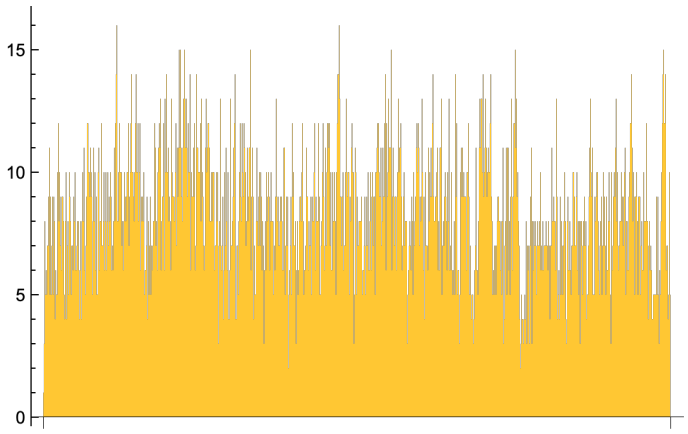
Out[47]=
```
23
```

In[48]:=
```
Count[StringTake[WordList[], 1], "q"]
```

Out[48]=
```
194
```

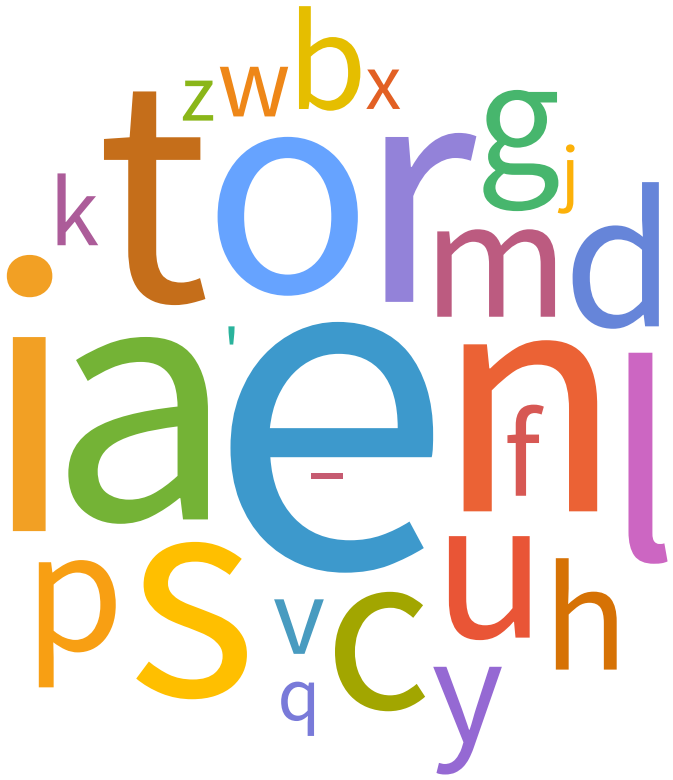
In[49]:=
```
BarChart[Take[StringLength[WordList[]], 1000]]
```

Out[49]=



In[50]:=
```
WordCloud[Characters[StringJoin[WordList[]]]]
```

Out[50]=



In[51]:=

In[52]:=

In[53]:=

In[54]:=

In[55]:=