EIWL Sections 45 and 46

8/8

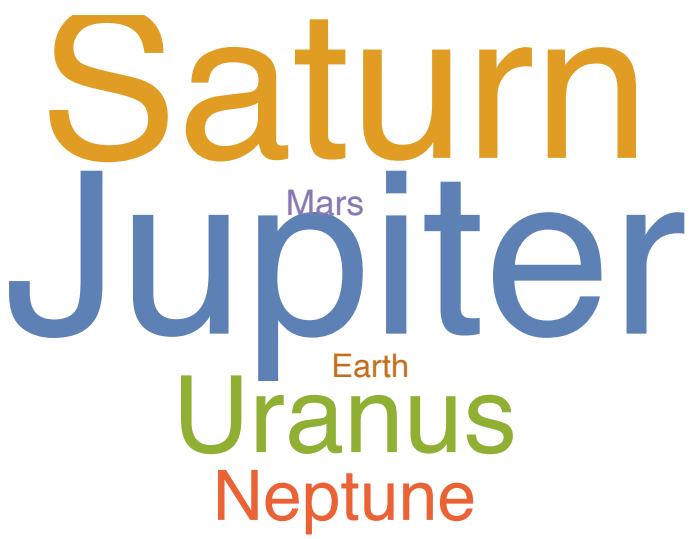
Due to getting a little behind in the final two weeks of the semester, I only checked for completeness on PS 18-21. ~Brian

Chapter 45

In[ ]:=
```
planets = CloudGet["https://wolfr.am/7FxLgPm5"];
WordCloud[Normal[planets[All, "Moons", Length]]]
```

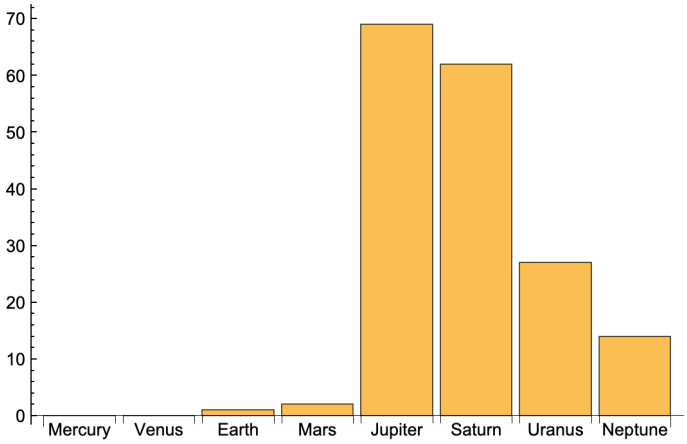
CloudConnect: This version of Mathematica will no longer be supported for use with the Wolfram Cloud beginning Tue 1 Jul 2025. Please upgrade your license or contact us.

Out[ ]=



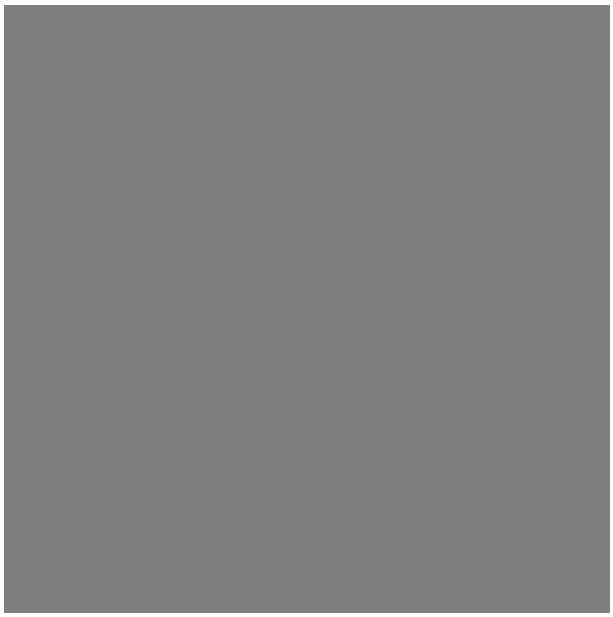
In[•]:=
```
BarChart[planets[All, "Moons", Length], ChartLabels → Automatic]
```

Out[•]=



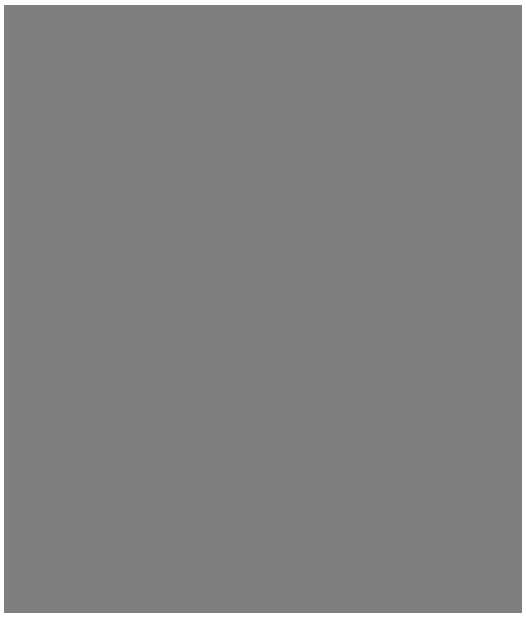
In[•]:=
```
SortBy[planets[All, "Mass"], planets[All, "Moons", Length]]
```

Out[•]=



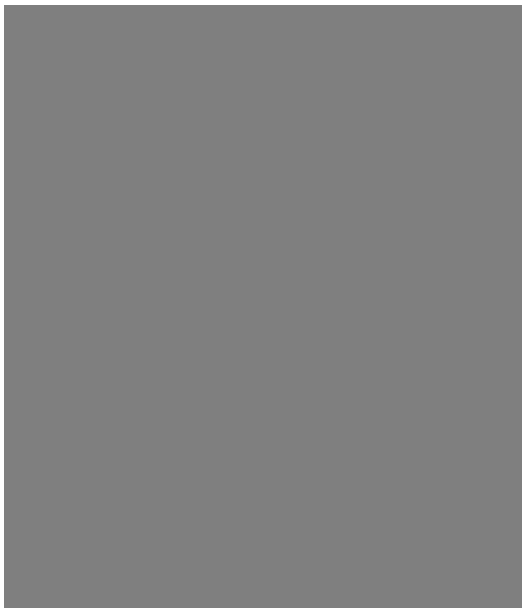
In[•]:=
```
planets[All, "Moons", Max, "Mass"]
```

Out[•]=



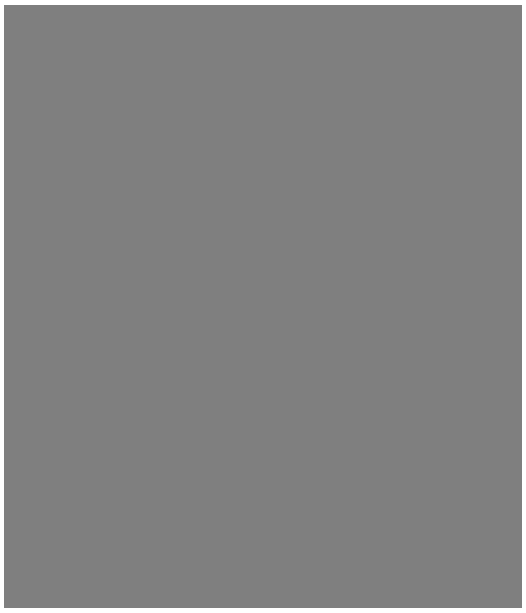
In[•]:=
```
SortBy[planets[All, "Moons", Total, "Mass"], planets[All, "Moons", Max, "Mass"]]
```

Out[•]=



In[•]:=
```
planets[All, "Moons", Median, "Mass"]
```

Out[•]=



In[•]:=
```
planets[All, "Moons", Select[#Mass >  &]][All, Keys]
```

Out[•]=

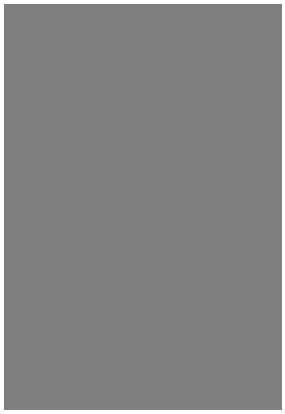
In[•]:=
```
fireballs = ResourceData["Fireballs and Bolides"];
fireballs[Max, "Altitude"]
```

Out[•]=

66.6 km

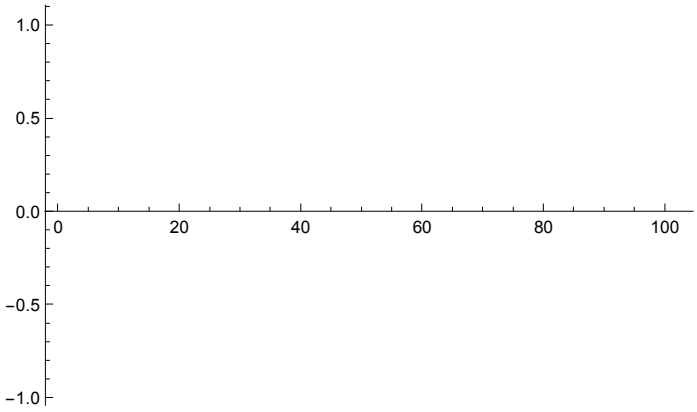
In[•]:=
```
fireballs[TakeLargest[5], "Altitude"]
```

Out[•]=



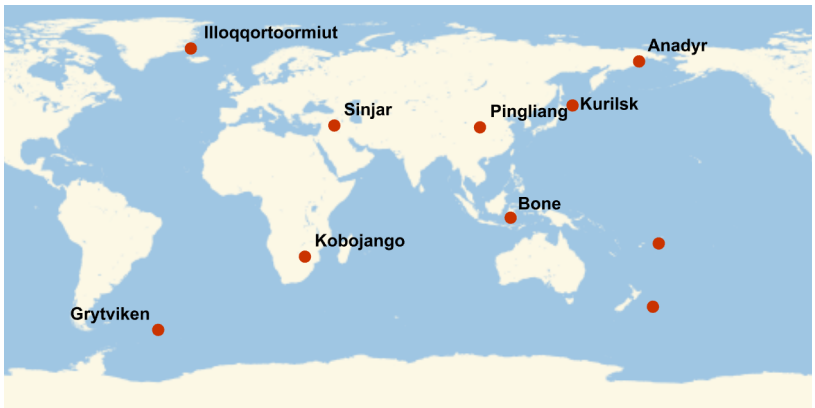
In[•]:=
```
Histogram[Differences[fireballs[All, "PeakBrightness"]]]
```

Out[•]=



In[•]:=
```
GeoListPlot[fireballs[1 ;; 10, "NearestCity"], GeoLabels → Automatic]
```

Out[•]=



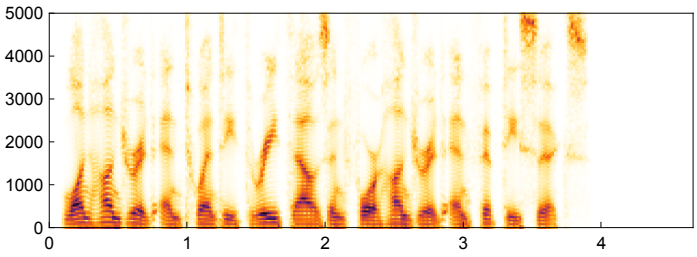
In[•]:=
```
GeoListPlot[fireballs[TakeLargestBy[#Altitude &, 10], "NearestCity"],
 GeoLabels → Automatic]
```

Out[•]=

Chapter 46

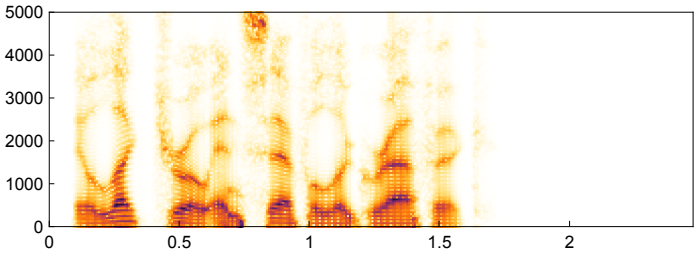
In[•]:=
```
Spectrogram[SpeechSynthesize["123456"]]
```

Out[•]=



In[•]:=
```
Spectrogram@SpeechSynthesize@Last@SortBy[WordList[], StringLength]
```

Out[•]=

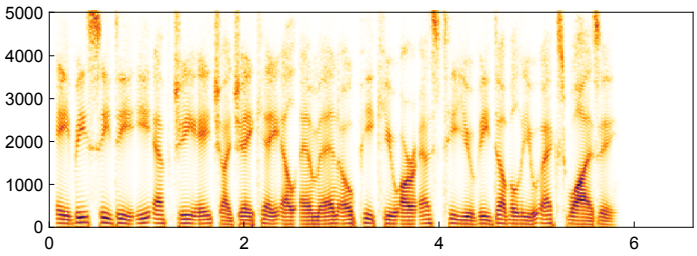


In[•]:=
```
SpeechSynthesize@StringRiffle@Alphabet[]
```

Out[•]=

In[•]:=
```
Spectrogram[SpeechSynthesize@StringRiffle@Alphabet[]]
```

Out[•]=



In[•]:=
```
AudioPitchShift[SpeechSynthesize["hello"], 2]
```

Out[•]=

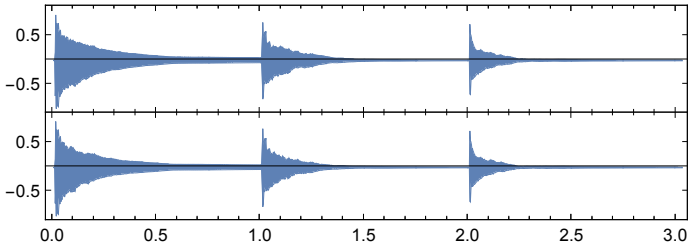
In[•]:=
```
SpeechRecognize /@
 Table[AudioPitchShift[SpeechSynthesize["computer"], x], {x, 1, 1.5, 0.1}]
```

Out[•]=

{, , , , , }

In[•]:=
```
AudioPlot[Sound[Table[SoundNote[12 x, 1, "Guitar"], {x, 3}]]]
```

Out[•]=



In[•]:=
```
AudioIdentify /@
 Table[AudioPitchShift[Sound[SoundNote[0, 1, "Trumpet"]], x], {x, 0.5, 1, 0.1}]
```

Out[•]=

{ trombone , trombone , trombone , trombone , trumpet , trumpet }

```
AnimationVideo[Blur[CurrentImage[], 20 - t], {t, 0, 20}]
```

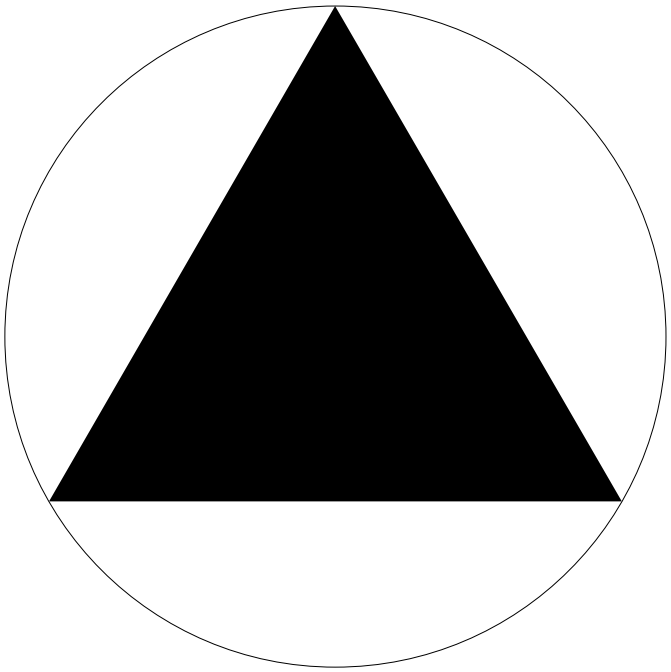
CurrentImage: Unable to connect to a camera. Check that a camera is properly connected and that it is not currently in use by another application.

Blur: Expecting an image or graphics instead of $Failed.

Out[ ]=

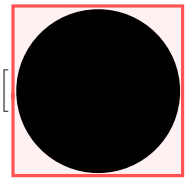
```
AnimationVideo[Blur[$Failed, 20 - t], {t, 0, 20}]
```

Out[ ]=



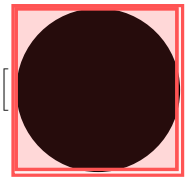
In[ ]:=
```
AnimationVideo[Graphics[{Disk[], RegularPolygon[x]}], {x, 3, 20, 1}]
```

Out[ ]=

AnimationVideo[ , {x, 3, 20, 1}]

In[ ]:=
```
AnimationVideo[Graphics[Style[Disk[], Hue[X]], 50], {X, 0, 1}]
```

Out[ ]=

AnimationVideo[ , {InterpolatingFunction[Domain: {{0., 2.25}} Output: scalar], 0, 1}]

In[•]:=
```
AnimationVideo[
 Rasterize[Style[ToUpperCase@FromLetterNumber[x], 200]], {x, 1, 26, 1}]
```

••• FromLetterNumber: The argument x is not an integer or a list of integers.

Out[•]=

AnimationVideo[ToUpperCase[FromLetterNumber[x]], {x, 1, 26, 1}]