Fun Facts:

**Castor**

Computer Code:

* **Other Names:**
  + Alpha Gem
  + Alpha Geminorum
* **Location:**
  + RA: 07h 35m 7s
  + Dec: +31⁰ 51’
* **Basics:**
  + This is a double star in Gemini.
    - Further spectroscopy has revealed there are actually 6 stars in the system.
  + It was discovered as a double star in 1678 by Giovanni Cassini. It was actually the first gravitationally bound objects observed beyond our solar system.
  + Both stars are very similar in appearance, but a medium sized telescope is necessary to split them.
  + Distance: 51 light years away
  + Orbital Period: 467 years
  + Separated by 107 AU (about the distance from the Sun to Pluto)
* **Notes:**
  + Castor is the 23rd brightest star in the sky.
  + Gemini – the Twins
    - Castor & Pollux are not related gravitationally. Pollux is 34 light years away, Castor is 52. Pollux is an orange giant star. Castor is a white star.
    - Castor’s designation is Alpha Gem, but it is actually fainter than Beta Gem (Pollux). It’s likely that either Castor or Pollux has changed in luminosity over the centuries.
    - In Greek mythology Castor & Pollux are really half-brothers, with their mother being Leda. Pollux’s father is Zeus, so Pollux is immortal. Castor’s father was King Tyndareus, king of Sparta. Their sister was Helen of Troy.
  + Both Castor A & B are about 370 million years old. Castor C presents a problem however. At 370 million years old, Castor C should be 20% than it is. Otherwise, it looks to be only 30-85 million years old…and we’re not sure how it got connected with this system.
* **Castor A**:
  + - Separated by 0.12 AU (about the distance from Mercury to the Sun)
    - Orbital period: 9 days
  + **Castor Aa:**
    - Temperature: 15,700⁰ F
    - Diameter: 1.66 Suns
    - Type: white (main sequence)
    - B-V Color Index: +0.04, white
    - Luminosity: 34 Suns
    - Magnitude: +2.88
    - Mass: 2.15 solar masses
  + **Castor Ab:**
    - Type: red dwarf
    - Magnitude: +9.83
    - Mass: 0.5 solar masses
* **Castor B**:
  + - Separated by 0.03 AU (about ¼ of the distance from Mercury to the Sun)
    - Orbital period: 2.93 days
  + **Castor Ba:**
    - Temperature: 16,500⁰ F
    - Diameter:2.84 Suns
    - Type: white (main sequence)
    - B-V Color Index: +0.03, white
    - Luminosity: 56 Suns
    - Magnitude: +1.58
    - Mass: 1.7 solar masses
  + **Castor Bb:**
    - Type: red dwarf
    - Mass: 0.5 solar masses
* **Castor C**:
  + - A pair of red dwarfs that lie about 1,100 AU from the brighter pair.
    - Castor C orbits A & B about every 10,000 years.
    - Separated by 0.018 AU
    - Orbital period: 19.5 hours
    - This is one of only a few known eclipsing binary stars that are both red dwarfs.
    - One or both of them are flare stars, meaning they will sometimes suddenly give off large amounts of surface magnetic energy. (Proxima Centauri is also a flare star.)
    - Combined luminosity of 0.05 Suns
  + **Castor Ca:**
    - Temperature: 5,400⁰ F
    - Magnitude: +9.1
    - Mass: 0.62 solar masses
  + **Castor Cb:**
    - Temperature: 5,400⁰ F
    - Magnitude: +9.6
    - Mass: 0.60 solar masses