This assignment was locked Apr 3 at 11:59pm.

Define an object to represent all the information for a body in a solar system. For this use  
[https://github.com/StevensDeptECE/CPE552-Java/blob/master/2020S/Session07/solarsystem.dat (Links to an external site.)](https://github.com/StevensDeptECE/CPE552-Java/blob/master/2020S/Session07/solarsystem.dat)

THere are pictures under the following google drive directory:  
[https://drive.google.com/open?id=0ByWFfdXuM\_awZmgzTS1LTkNyRDQ (Links to an external site.)](https://drive.google.com/open?id=0ByWFfdXuM_awZmgzTS1LTkNyRDQ)

in the folder 1k

 Your program should load all files with no path, because if you specify a path on your computer it will be wrong for the graders.  Download the file and put it in the base directory of your Netbeans project which is the default directory.

Each of Body should store:

* Name of the body
* What it orbits
* Mass
* Diameter
* Mean distance from what it orbits
* Orbital Period

Create objects representing the sun, venus, earth, and our moon.  
  
Draw the objects in 2d or 3d  
  
1. You will have to scale distances.  1.1e11 is a huge number!

2. You need to implement a HashMap to look up the body you are orbiting.  
  
example:  sun orbits ??? (nobody)  therefore sun x = 0, y = 0

HashMap<String,Body> bodiesByName;

Body b = new Body(....);

bodiesByName.put("sun", b);

earth.orbits("sun")

get the location of the body the earth orbits (xc=0, yc = 0)

This is the center of your orbit.

if earth's orbit = 800 radius  
pick a random angle theta around the sun  
x = xc + r \* cos(theta)    y = yc + r \* sin(theta)

print out all initial positions and draw

It is ok if the picture is not to scale. There is no way to make everything to scale.

If distances are correct scale, all the planets are tiny dots (ugly). It would be nice to scale the planets so earth is bigger than Venus, and Venus is bigger than the moon.

