Rules

1. Submission Steps:
   a. In your local machine, create a new folder; the name of the folder should be your 7 digit roll number.
   b. Implement your solution in a file called "SolarSystem.c". <u>The name of the file should be exactly as is mentioned</u>. Put this C file in the folder created in step 1(a).
   c. Finally, zip the folder created in step 1(a) to produce a .zip file. The name of the .zip file should be your 7 digit roll number.
   d. Submit the .zip file created in step 1(c).
2. You must submit your solution package (.zip file) within the given deadline through Moodle.
3. You must bring your solution package in the next lab class.
4. You must be able to explain your code properly in the next lab class.
5. Do not copy code. You will be caught and given -20.

Problem #1
Solar System
File name: SolarSystem.c

Run the "SolarSystem.exe" program that is provided as part of this problem package. Your solution should extend this. Your solar system should include all the 9 planets. Earth should have a moon, Mars should have 2 moons. Find out how many moons other planets have and you can render those as well.

Observe the behavior on the following key presses:
1. Left / Right / Up / Down keys.
2. Small or capital 'o'.
3. Small or capital 's'

Mimic the same behavior in your solution.

Finally, use your imagination to add extra fun and visually appealing features for <u>bonus marks</u>. There can be up to 50% bonus marks in this assignment! For example, consider the following features (but don't limit your imaginations):
1. Can you add a nice background that would have some stars lit farther away?
2. Can you add shooting stars that may collide with a planet, resulting in small explosion like animation?
3. Can you zoom in or out? When you zoom in, you would see a smaller portion of the solar system but objects would look larger. On the other hand, when you zoom out, you would see larger portions of the solar system at a glance but objects would look smaller.

A source code file named "SolarSystem.c" has been provided as a sample. It has a very simple system, where the moon is following circular orbit. You can start with this skeleton and make changes to produce the final system.