SOLAR SYSTEM

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This project tries to mimic our **Solar system** with **9** Planets(well, pluto!), **1** Sun, **1** Moon.

Assignment Requirements

- 4 - Positional Lights ✔
- Normal and Specular maps for all 9 planets, 2 rings and 1 sun ✔ (Moon has no normal/specular)
- All spherical objects are rendered using Geometrymaker, Planet rings and orbit traces are achieved using loadObj method ✔

Additional implementations

- Arc ball implementation (quite buggy)
- Hierarchical entities, planet rings being children of planets and Moon is a child of Earth

Planet rings(**planet_ring.obj**) and orbital rings(**torus_final.obj**) are rendered using OBJ files which are created with the help of **Blender**. Both are created from a **TORUS** mesh.
Orbit obj - Major radius 7.0, Minor radius 0.01. **Planet ring** - Scale torus to zero along Y axis

Arc ball only works on the **LEFT** half of the screen, did not concentrate much to get it working as it is not a requirement. A more concrete and fully working implementation will be pushed soon.

BUILD INSTRUCTIONS:

> All the files in the **executable files** folder should be moved in to the executable directory
> Once the program is built an running arc ball is to be tried **ONLY** on the left half of the frame
> If the program exits while trying to pan the scene, please rebuilt the project

	Revolution	Renderer	Diffuse map	Specular map	Normal map
SUN	**0.0**	**makeSphere**	✔	✔	✔
MERCURY	**47.89**	**makeSphere**	✔	✔	✔
VENUS	**35.03**	**makeSphere**	✔	✔	✔
EARTH	**29.79**	**makeSphere**	✔	✔	✔
MARS	**24.14**	**makeSphere**	✔	✔	✔
JUPITER	**13.06**	**makeSphere**	✔	✔	✔
SATURN	**9.64**	**makeSphere**	✔	✔	✔
URANUS	**6.81**	**makeSphere**	✔	✔	✔
NEPTUNE	**5.43**	**makeSphere**	✔	✔	✔
PLUTO	**4.00**	**makeSphere**	✔	✔	✔
MOON	**25.00**	**makeSphere**	✔	✘	✘
SATURN RING	**0.0**	**loadObj**	✔	✘	✘
URANUS RING	**0.0**	**loadObj**	✔	✘	✘
ORBITAL RINGS	**0.0**	**loadObj**	✔	✘	✘

Light Positions (W.R.T world)
(-8.0, 0.0, 8.0), (8.0, 0.0, 8.0), (8.0, 0.0, -8.0),
(-8.0, 0.0, -8.0), (0.0, 8.0, 0.0)

SCREEN SHOTS