

Modelling Phong illumination in Blender.

⇒ We have studied Phong Illumination Model in the Lecture-25. It can be mathematically represented as,

PHONG ILLUMINATION MODEL

$$I_{\text{total}} = k_a I_a + k_d I_c (L \cdot N) + k_s I_c (R \cdot V)^n$$

① ambient reflection ② diffuse reflection ③ specular reflection.

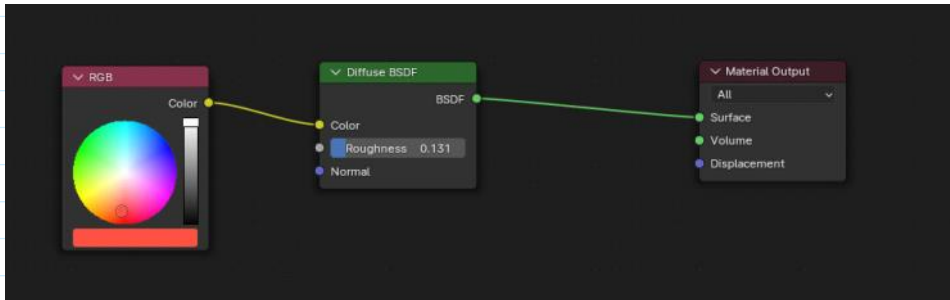
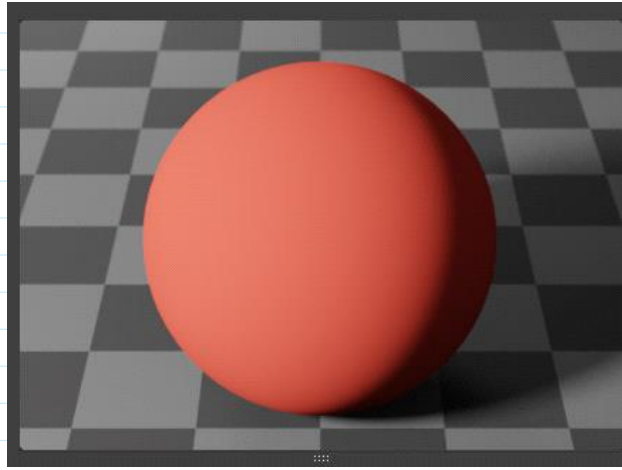
⇒ Today's lab is about adding Shader Geometric Nodes to our objects

① Download the phong_model.blend file.

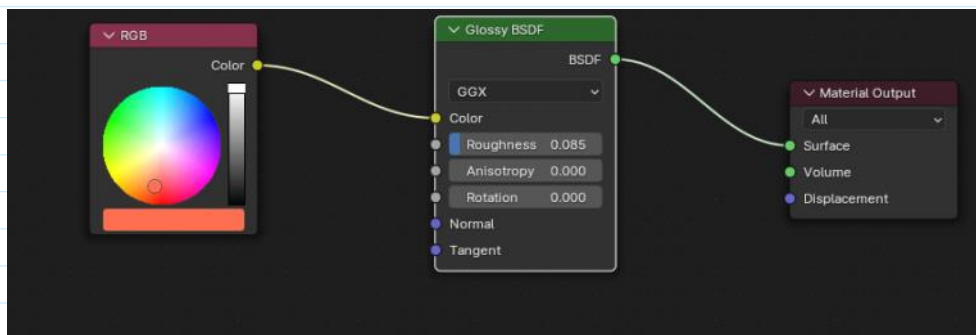
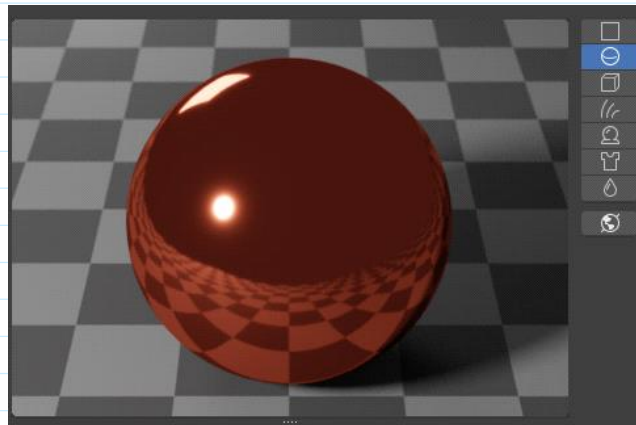
② Open it in your blender software.

③ Notice that there are three types of texture on the spheres.

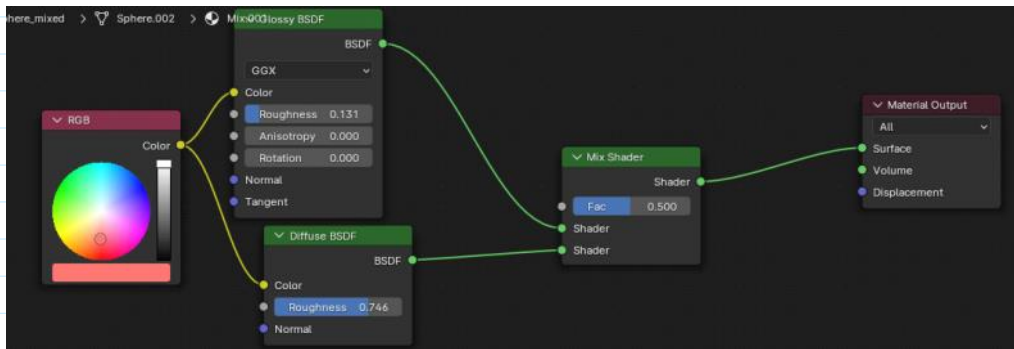
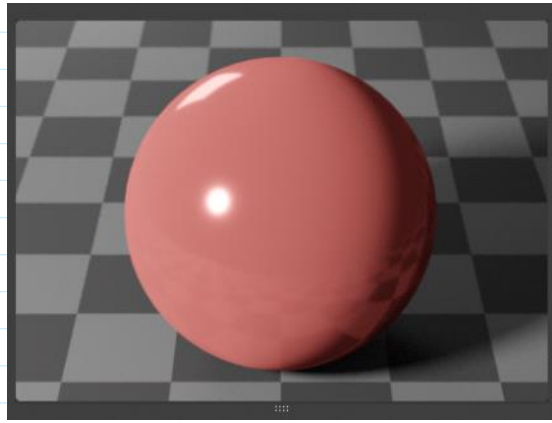
(a) Diffuse Reflection



(b) Specular Reflection



(c) Mix = Specular + Diffuse



Notice how these textures are generated in their Geometric Nodes graph.

- ① RGB node represents ambient reflection.
- ② Diffuse BSDF → diffuse reflection.
- ③ Specular BSDF → specular reflection.

Use Phong Illumination in your final project.