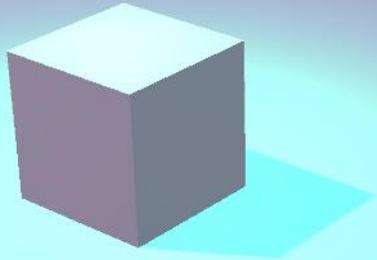


# Unity 3D

Lights & Materials

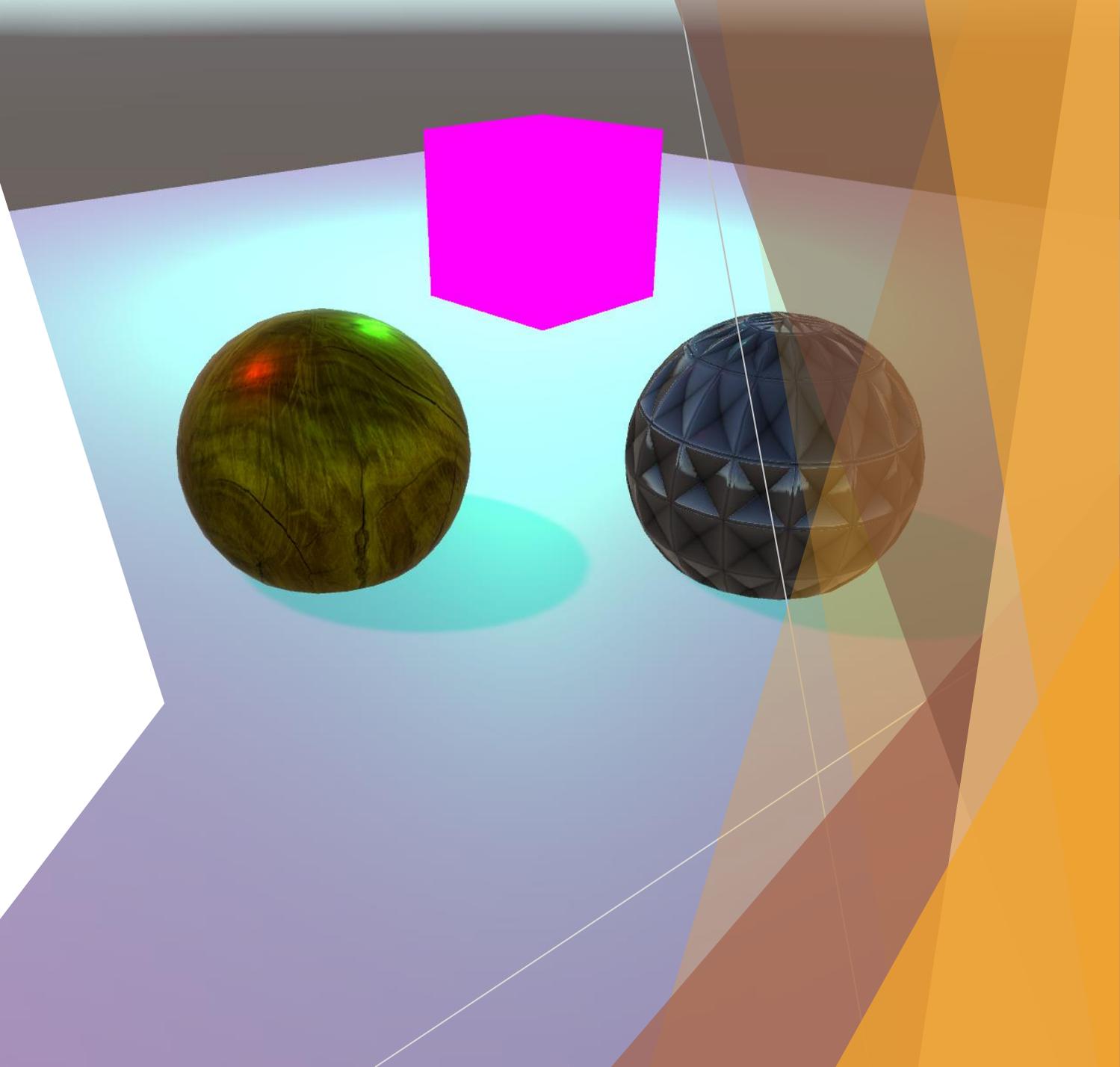
# Lights

- ▶ Create a new project with a floor and a cube at position 0,0,0. Set the camera to look at the cube.
- ▶ Delete the light source created with the default scene and insert a point light (Gameobject>Light). Move the point light somewhere close and above the cube.
- ▶ Change the range, color and intensity parameters of the light and see what happens. You can also control whether or not this light produces shadows.
- ▶ Add a spot and directional light sources. What are their differences ?



# Materials

- ▶ Right click and create a new material in your project explorer. Select the standard shader.
- ▶ Insert a sphere next to your cube and apply (drag n drop) the material to both objects.
- ▶ Modify the material's albedo, metallic and smoothness settings and see what happens. Also try enabling emission.
- ▶ Download an image from <https://www.pexels.com/search/texture/> and save it in your assets folder. Apply it to your material's albedo.
- ▶ Try changing the albedo color. What happens?
- ▶ Modify the tiling X and Y parameters (try 0.5, 1 , 2, 10).
- ▶ Download the material packs here <https://3dtextures.me/> and extract to your assets folder.
  - ▶ Apply the base color image to albedo and the normal to Normal Map. For the normal image to work correctly you need to select it in the explorer and change texture type to Normal Map.
- ▶ Apply the heightmap as well and play with the height intensity.



# Skybox

- ▶ Create a new material and set shader to Skybox > Panoramic.
- ▶ Download an environment map from here <https://hdrihaven.com/hdris/>.
- ▶ Apply your image to the material's texture and set the parameters (rotation, intensity) to your liking.
- ▶ Go to Window, Rendering, Settings and set Skybox Material to the one you just made.

