CS426 – Computer Graphics – Assignment 2
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Task1:

Figure 1 below shows the imported wooden texture inside the Shader Editor. The text for initials and student number were placed on the top left corner of the texture plane. The texture was then unwrapped and edited inside the UV Map to fit the initials perfectly on the front face of the box. The vertices were moved onto the box which covered the initials and saved. The initials were now perfectly displayed on the wooden box.
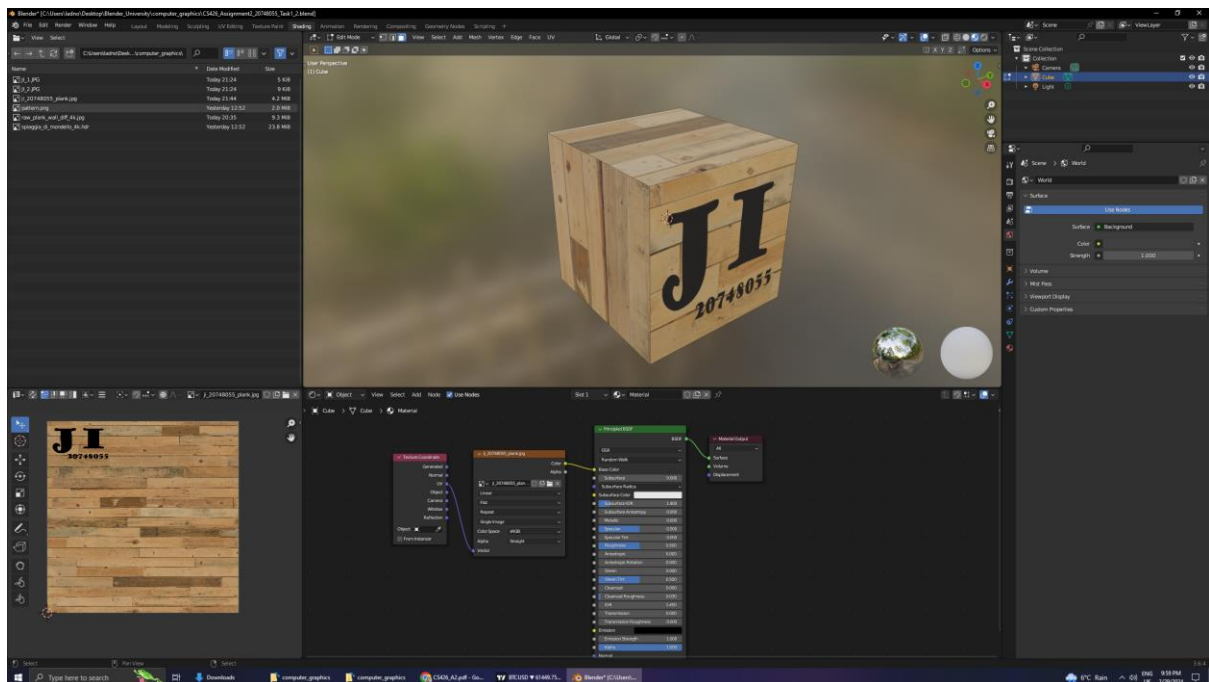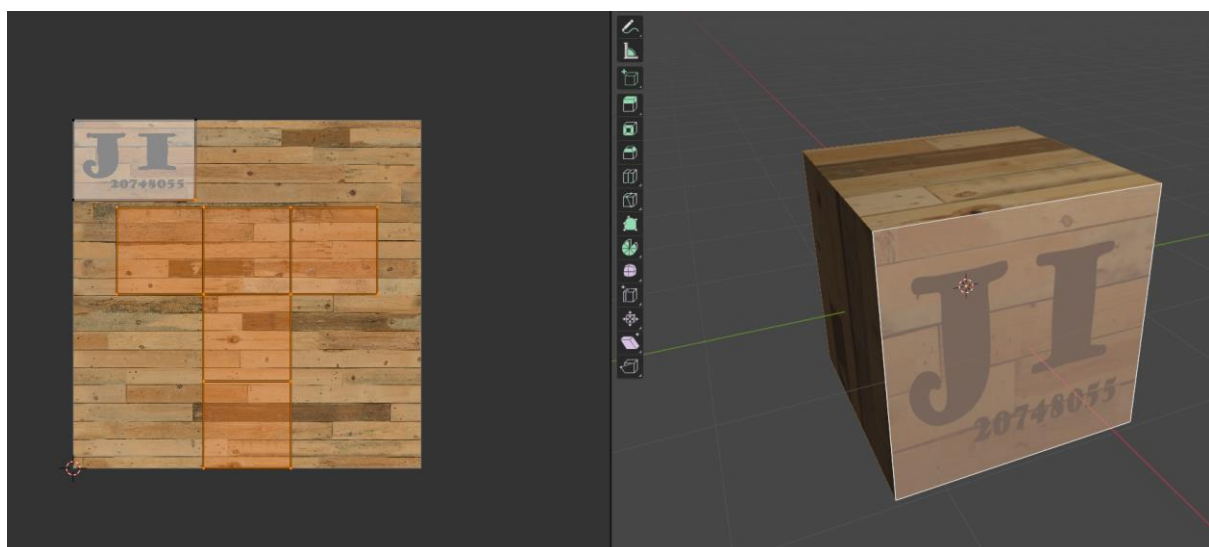

Fig 1.

Fig 1.1. Visual representation of how the UV Mapping was done.

Fig 1.2 Final rendered image of the wooden box with initials

Task2:

Figure 2 below shows my editor after creating a pebble, shown inside the Layout window on desktop, in the rendered view. The camera is set in a view position. The white plane in the background is just for the shadow and is hidden when HDRI is displayed.
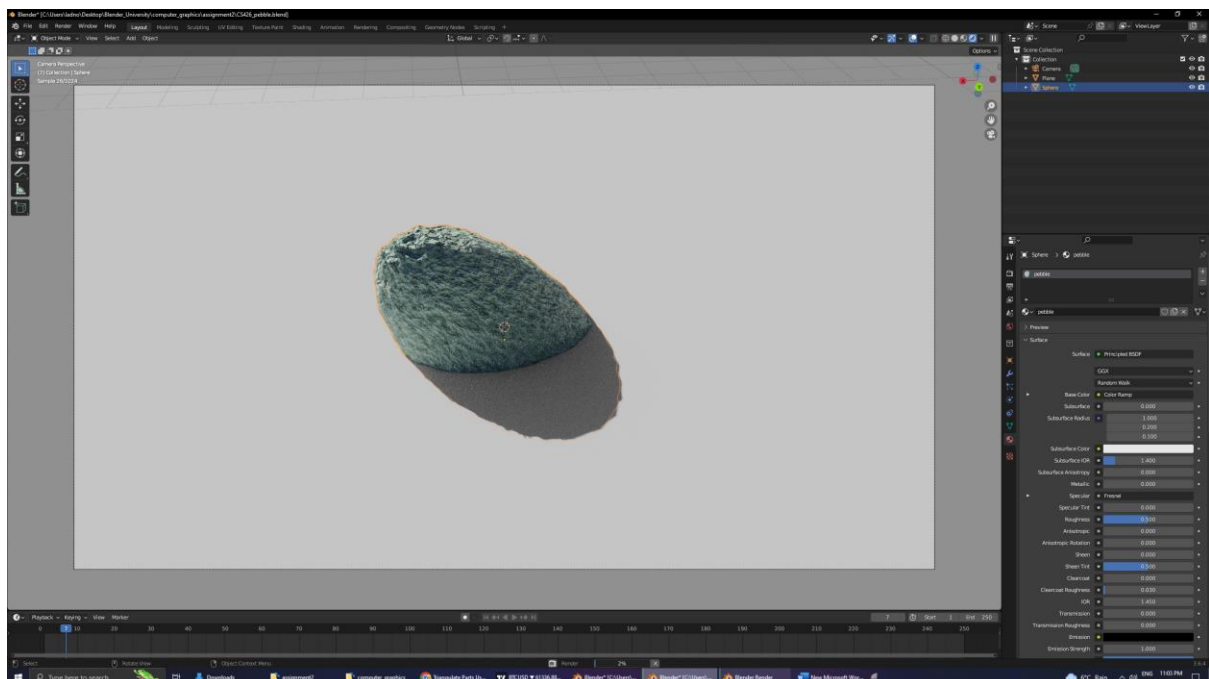

Fig 2.

Figure 3 below shows how the pebble looks like when it is fully rendered (This is the final image of the rendered pebble), the HDRI image is not visible here and is only used for lightning:
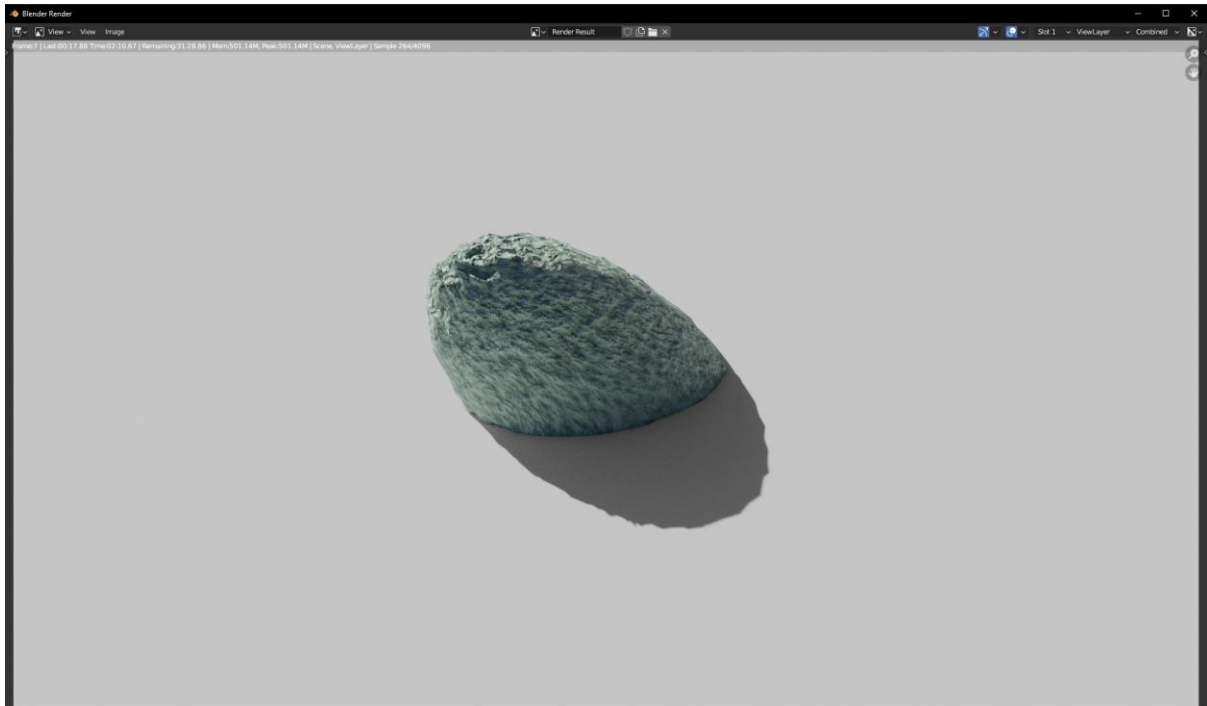
Fig 3.

Figure 4 below is how the pebble looks like on a beach in a realistic image, shown inside the workspace screen of the Blender editor. The light comes from the sun in the HDRI image.
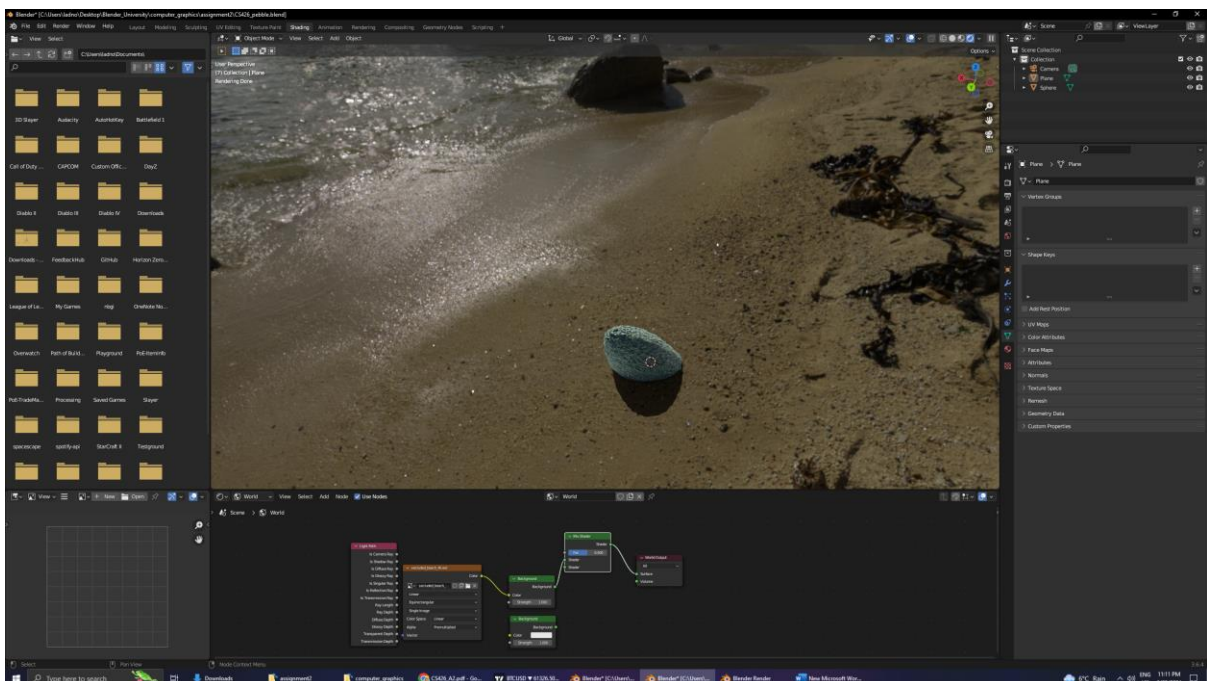

Fig 4.

Task3:

To start off I created a UV Sphere with Shade Smooth. Added a new material to in the Shading editor. In addition to the initial nodes provided in the task 3, I've added other nodes such as "Texture Coordinate", "Map Range" and "Color Ramp".

In the below figures 5 and 6, I'm showing how the sphere changes depending on the camera

distance, which I've set to 17.700 threshold. This threshold in combination with "Map Range" "From Min/Max" parameters allowed me to have the ball glossy and green when the camera is up close. When the camera moves back, the colour gradually changes from green to yellow, then finally to red at the end. This was achieved using the "Color Ramp" node with correct range of colors set. The glossy reflection on the ball slowly disappears when the camera moves back past certain threshold.
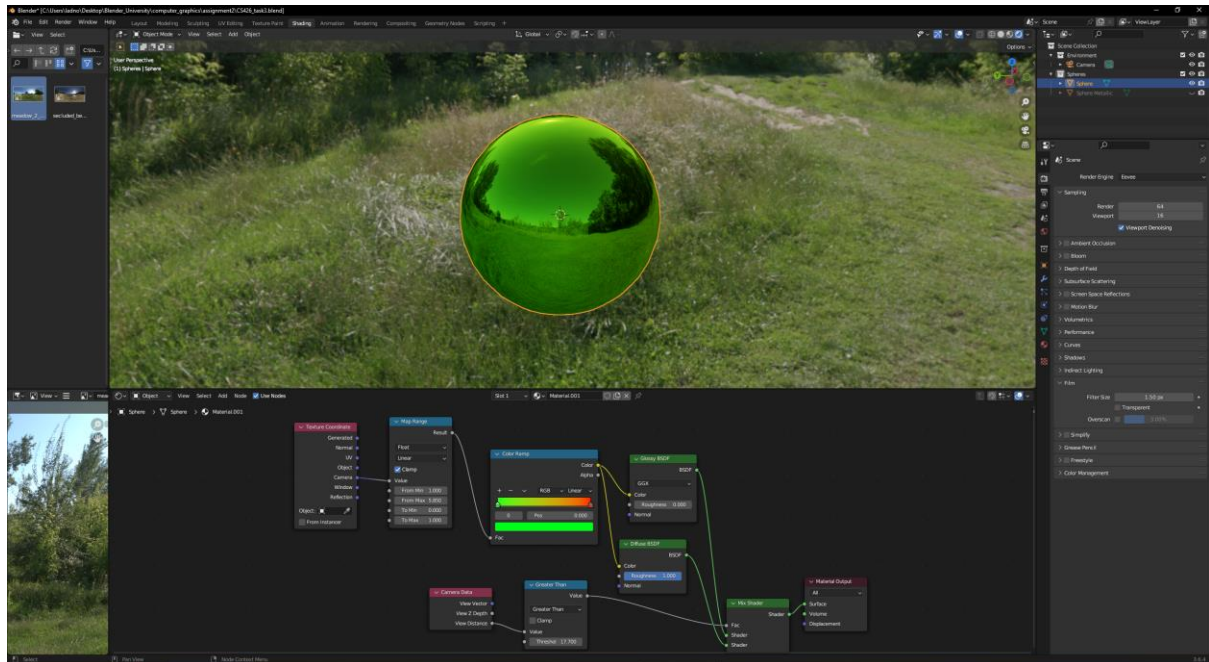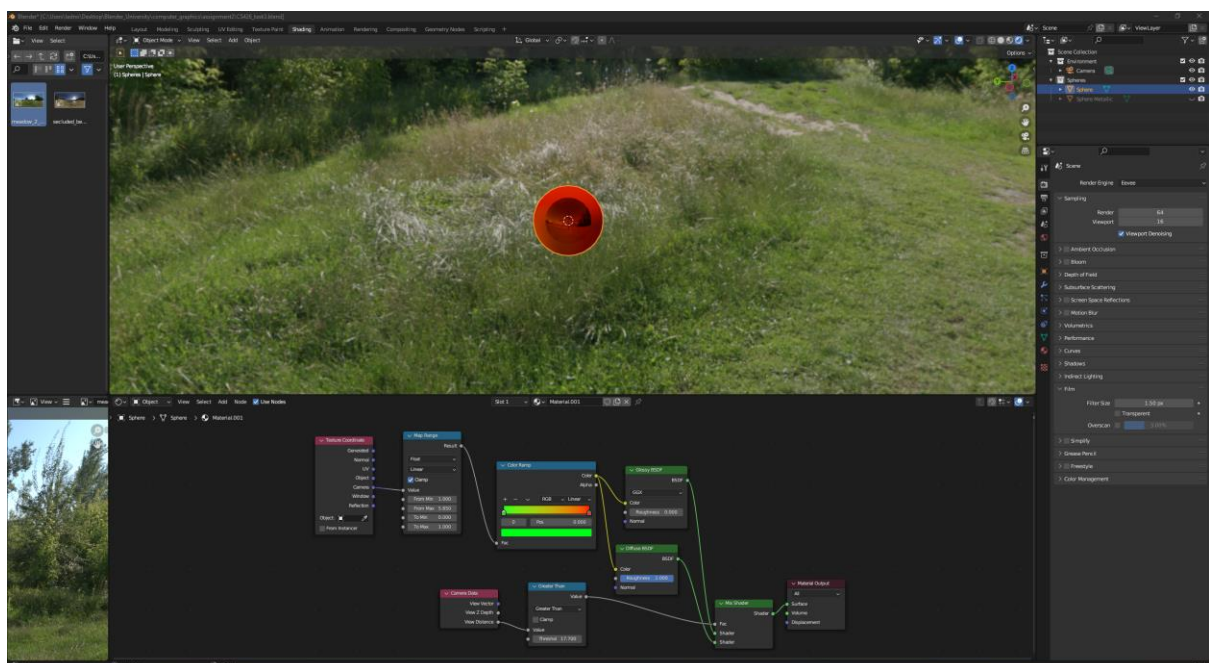

Fig 5.

Fig 6.

And finally, in the figure 7 below, I've added yet another "Map Range" and "Color Ramp" nodes which are connected to the "Camera Data" node. This creates an effect when the camera is moved to the front of the ball, the ball changes colour. The front of the ball is red, and gradually

changes colour to green at the back of the ball. With this set up, the interface between the two shaders intersects the sphere in one rendering.
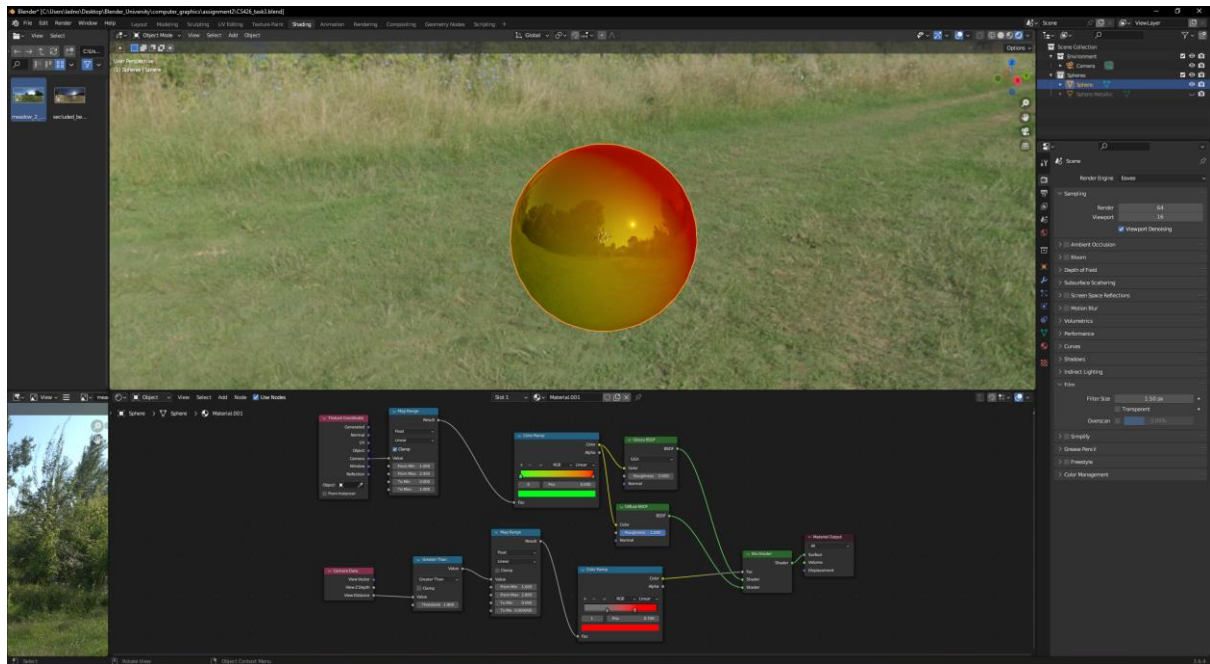

Fig 7.