Lab 4: Introduction to Tinkercad
CSE 2100-001

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1 Objective

Create a Tinkercad account and design a 3D model of a typical car or truck. At a minimum, your car should have 4 wheels and a body with a roof. The size of your model should fit within a 3x6x3 (width x length x height) inch volume. Additionally, the rear and front wheel pairs should be aligned along the same axis. You are encouraged to add additional detail, such as body contours, embossed text, colors, hood ornaments, etc. The best design in each section will be 3D printed and returned to the designer at a later date.
Show your design to the lab GTA when you are done, and submit a copy of your .STL file along with your weekly lab report. If you are working with a partner, you only need to design a single 3D model (but you must both submit the .STL file on your BlackBoard account).

1.1 Definitions

CAD computer aided design software is used to assist a user to create engineering, architectural, and scientific designs.

Solidworks 3D CAD software commonly used in the industry by mechanical and manufacturing engineers.

AutoCAD Popular but expensive software used for 2D and 3D CAD.

.STL Extension that is supported by most 3D printing platforms.

.OBJ Format used by tinkercad that also stores textures for 3D surfaces that can be imported or exported.

2 Question 1

What action must be done to combine several primitive geometric shapes into a single complex part?

The objects must be grouped together.

3 Question 2

What steps would you take to create a hollow 5 inch cube with 0.5 inch thick walls?

Drag a cube primitive and set it to hollow. Drag a ruler and set it to inches. Adjust the size of cube to 5 inches by using the ruler for reference. Type in the thickness to 0.5 inch.