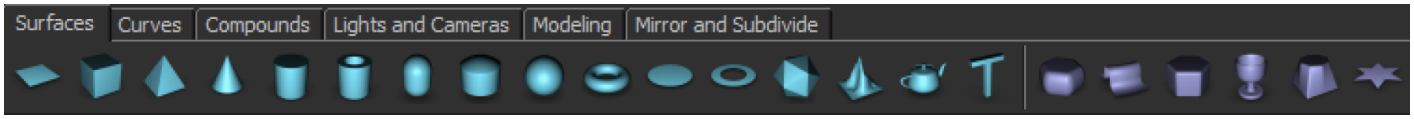
Creating a a Chair with modeling

Introduction and preparation

3D modeling refers to creating brand new 3D objects from scratch. This can be one of the most frustrating parts to master. Follow this tutorial so you can work your way up on the ladder of 3D modeling.

3D modeling usually starts from a standard object/shape. Shapes and objects can be found in the surfaces tab:



Always choose the object that is most similar in shape to the object you want to model. This can really save you time.

Before starting the modeling make sure to select the modeling layout (you can do this by selecting modeling in by clicking the layout drop-down list box found in the middle bar). Doing this ensures you use the most of your screen and it gives you a clearer view of the viewports, which are essential in the process of modeling.

Before you really start modeling and start modifying an object, determine in advance the amount of segments your object needs, the amount of segments can be adjusted in the Attributes Manager.

After that convert it to an edible mesh by clicking on the “Convert to editable” button in the top left. Make sure you have a visual reference of some kind – either a physical item on your desk, or an image to use as a guideline for you to model. Alternatively, it may be possible to create a plane and assign a texture that has an image, so you can get the aspect of the object your trying to model ok.

There are different methods to modeling here to name a few:

Modeling method	**How it works**
Plane modeling	Starting from a plane you begin to drag out edges to create planes that are attached you the other plane. Eventually you have to weld some vertexes and such but it certainly is a nice and precise method. It’s not an easy method but certainly a wide used one. (Not available in BEYOND 3D)
Vertex modeling	Moving vertexes to model your object only.
Box modeling	Starting off with a box, you begin to size the box and make a very low polygon rough outline of your model, also using extrude. In the end you smooth the mesh and you get a nice looking model.
Boolean modeling	process where you extract or union objects to get the desired shape, sometimes for simple things this modeling method can prove very useful.

You can vary from modeling method, experiment or try.

Eventually you'll learn to see which method is the fastest or you find the most comfortable.

When modeling don't really bother the real life sizes, just the aspects of the objects and very rough measurements. 3D laser animations don't rely on exact measures at all, just the shape itself and the size compared to other objects in the scene is what counts.

A key rule is that you should only make what really appears on the camera, if an object or part doesn't then don't waste time on it or don't be too precise with that part if possible, But do take your time. Also remember to name things when planning on doing big scenes, that way you will get confused less easily and be able to trace down specific objects back again in the Objects Manager.

In the following pages we will be creating a simple object. Use this as reference for creating your own…

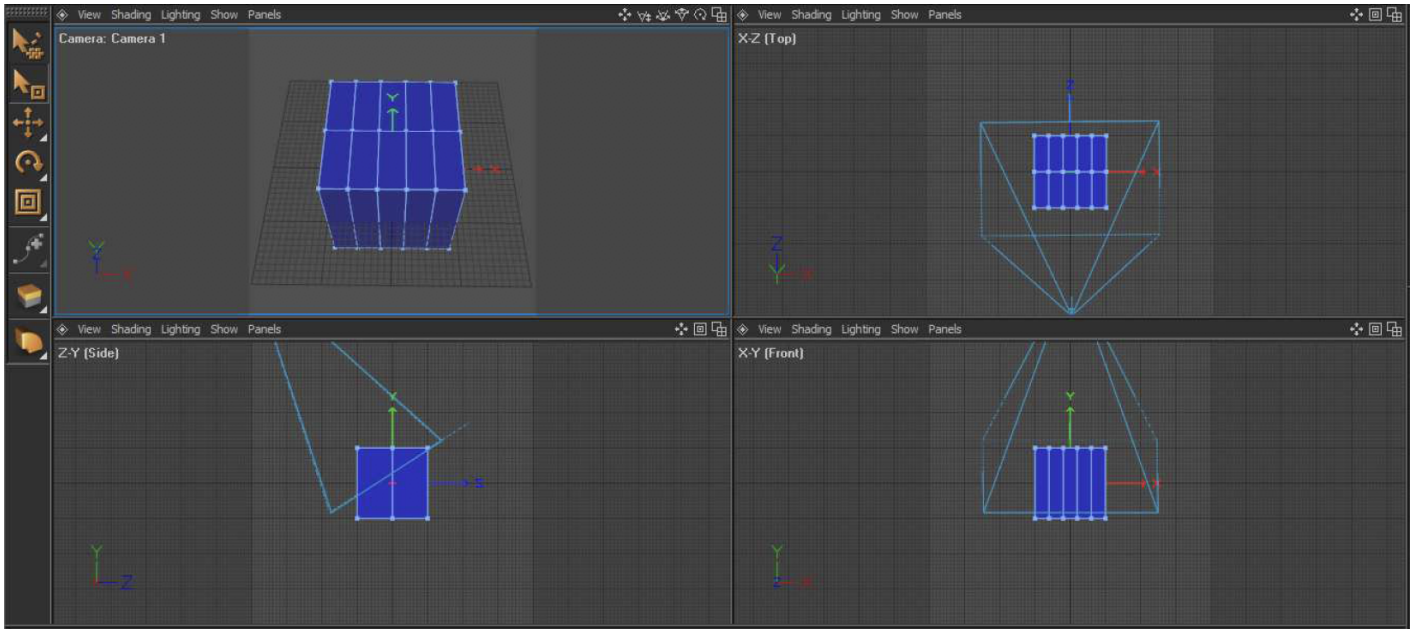
Modeling – Creating a chair

(vertex modeling) [Covering: Vertex modeling, Shading groups]

In this lesson we will learn about shading groups, diffuse texturing and modeling using just the available segments.

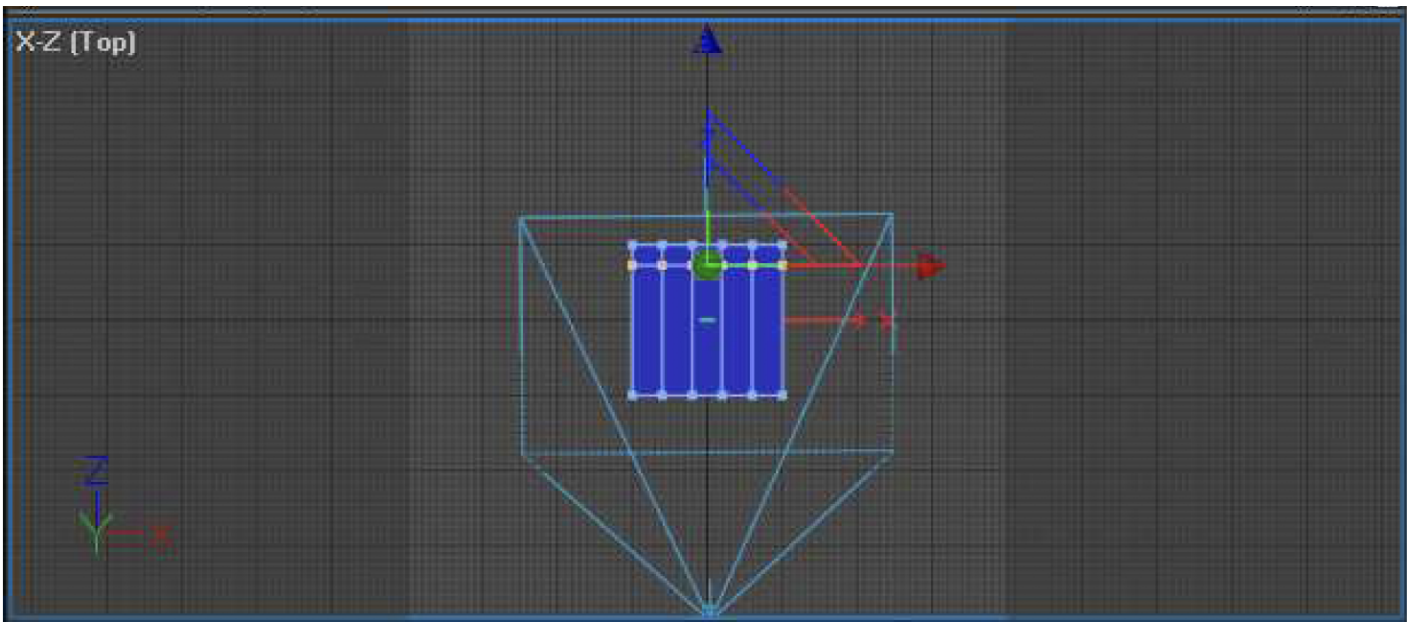
We start of by making a box and determining an amount of segments.
The amount of segments I determined were as followed:

Width Segments	5
Height Segments	1
Depth Segments	2



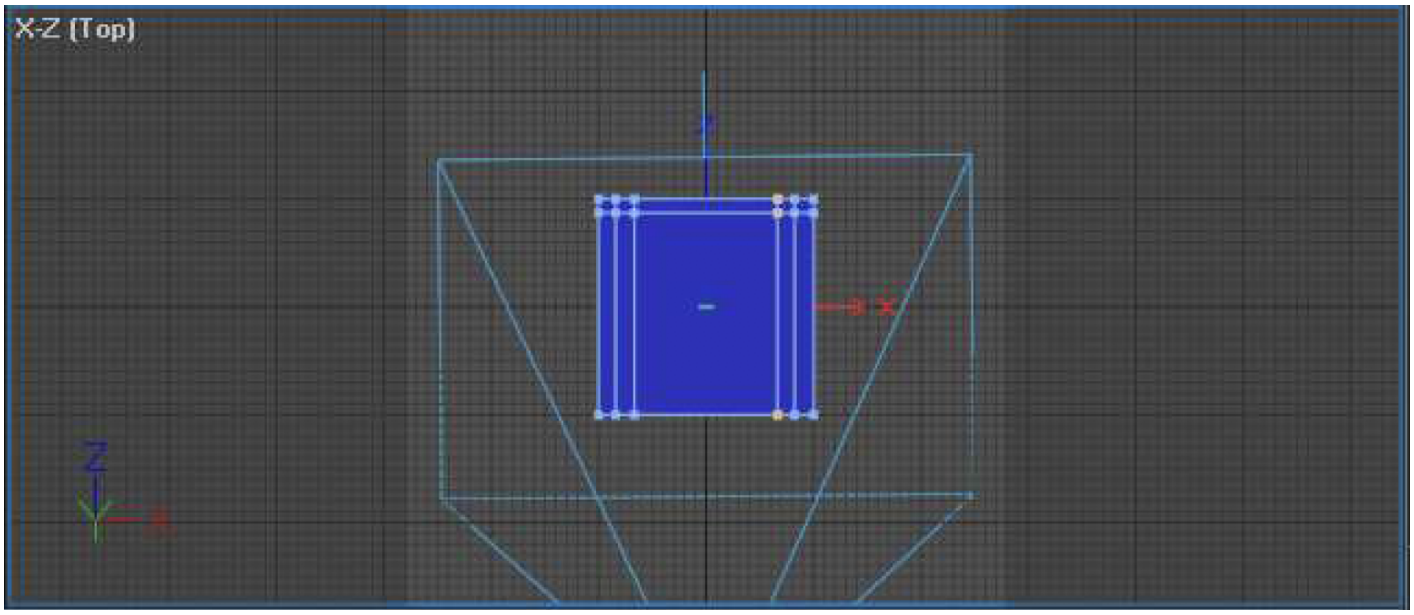
Make good use of the viewports you have. The other perspectives aid you with selecting. Please go to points mode when you have changed the object to an editable mesh.

From the top viewport Select the middle points by dragging on top of it, then switch to the move tool and move the vertexes as seen below.

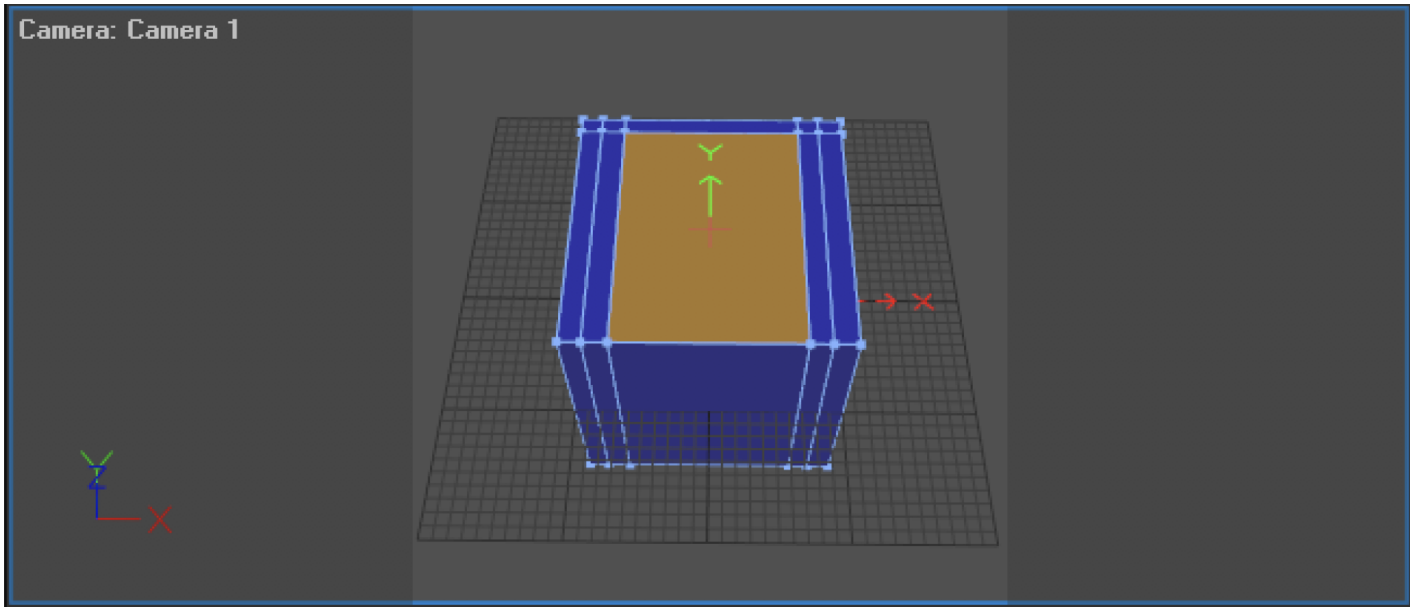


Now keep selecting vertexes from the top view to make this. *do drag over the vertexes from the top view, doing it from another view might have you select unwanted vertexes and that will ruin the model.

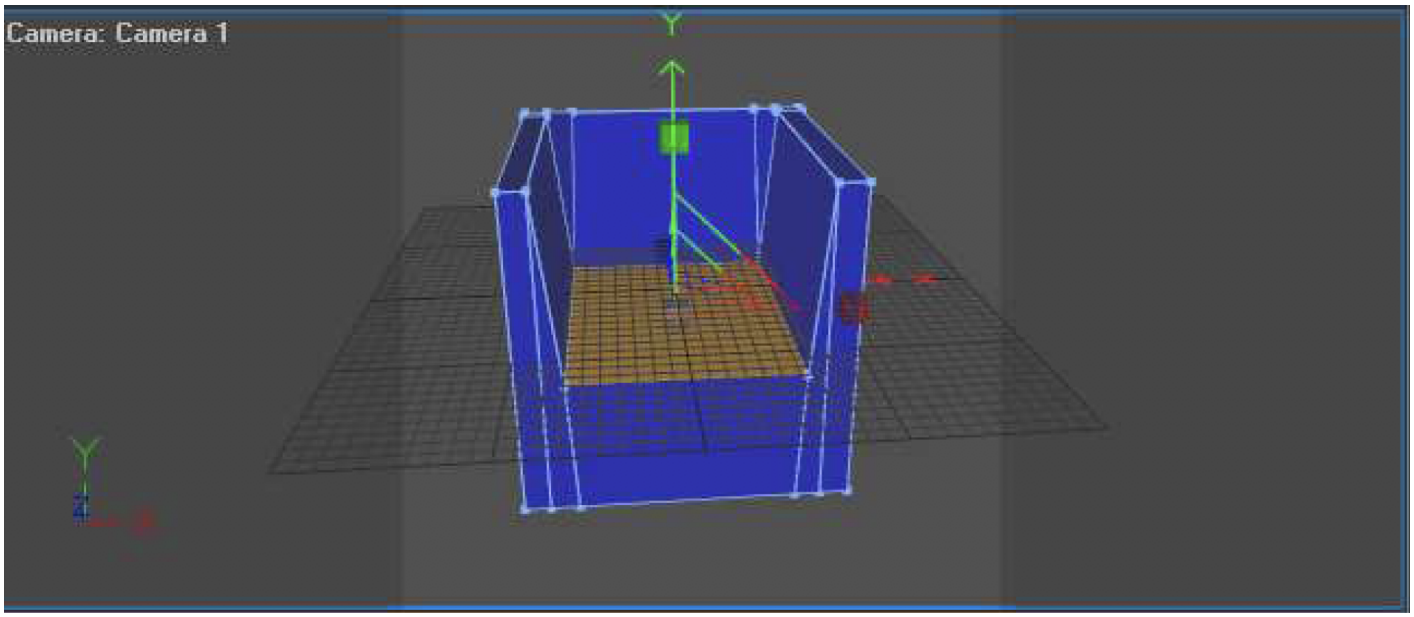
Try to drag to make the same as seen in the picture below:



Switch to faces mode and select the middle like this:



Click the move tool and drag a bit down, then click the scale tool and make it a bit wider by clicking and dragging the X axis of the scale tool a bit. (careful don't drag it out too far, if you see the blue changes to black, Drag back a bit so it will be the same blue as the rest). You should get something like this:



Great! So your almost done, while staying in faces mode, please select the select tool and select the modeling in the middle bar. Select some edges and look at this number changing:

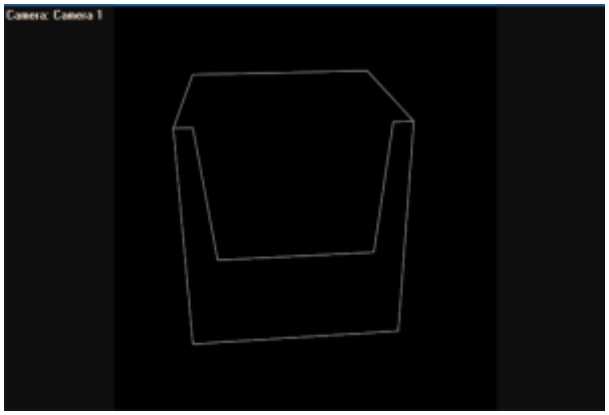
You can see the some edges have a different number, this number determines the shading groups Shading groups assist the render determine if the object creates a corner or not, for properly displaying an object attention should be paid to this.

- By clicking the + key you change to a higher shading group number.

- By clicking the minus you lower the shading group number.

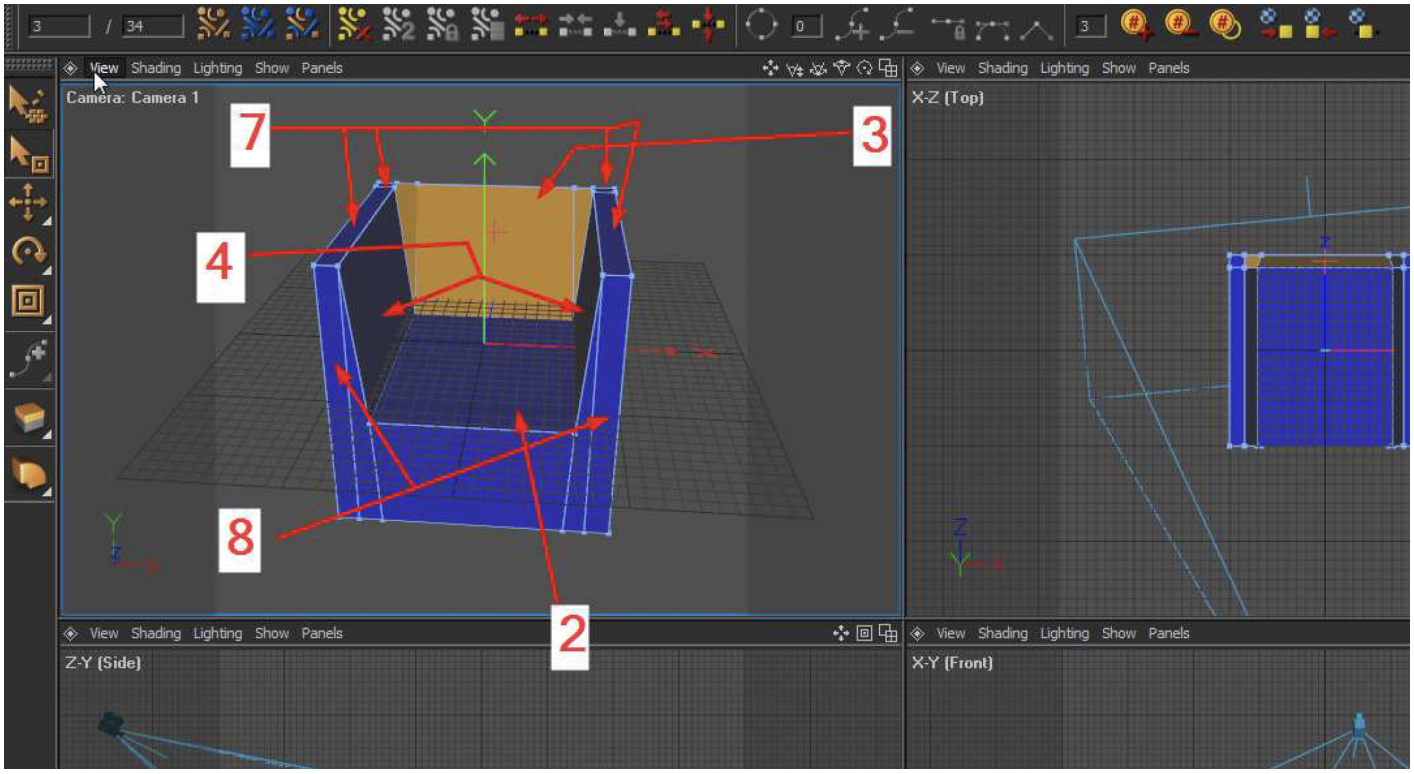
If not set correctly, object edges might be missing and objects have no proper folds or creases.

As seen here:

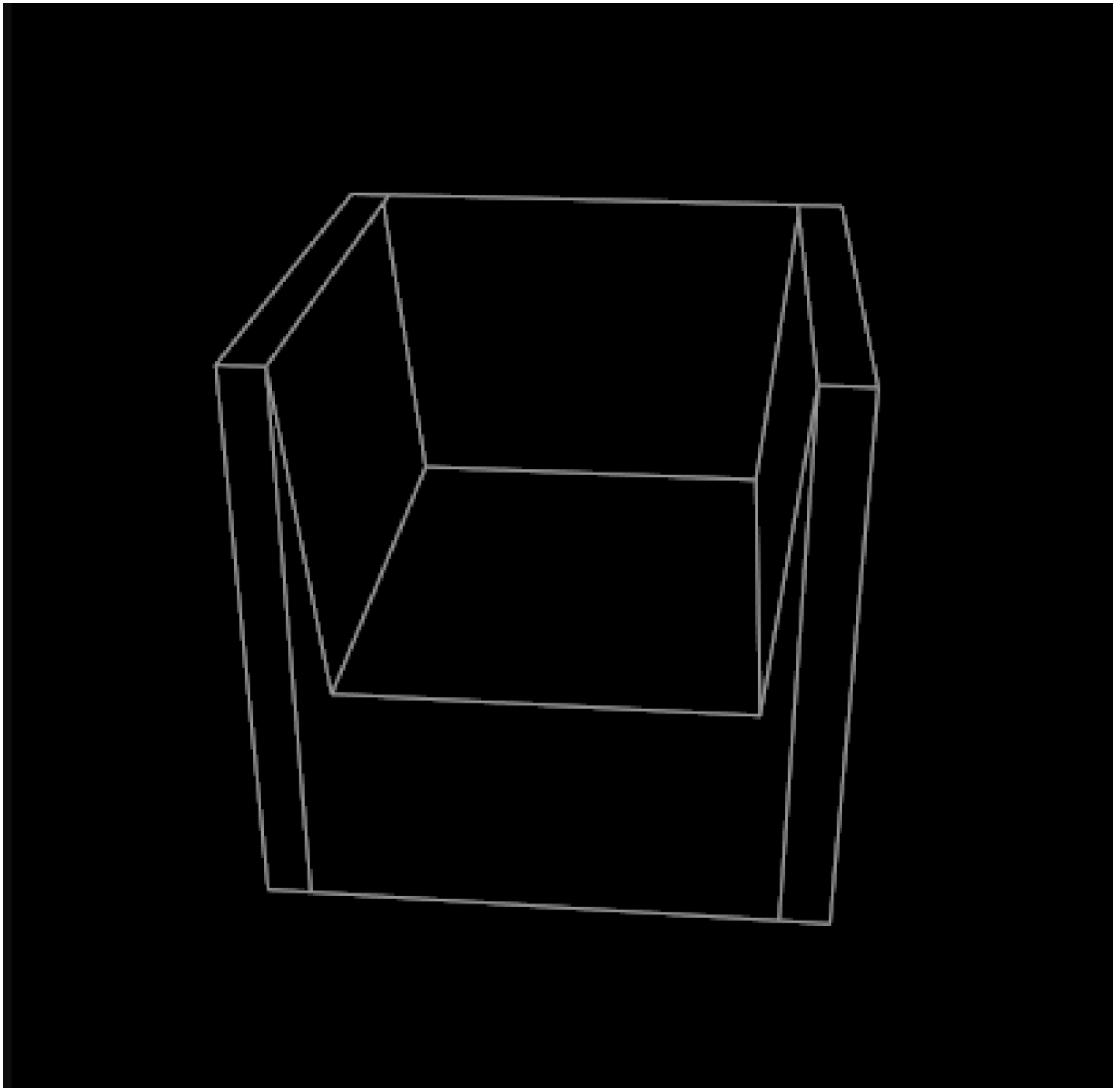


To fix this do the following: Select the faces and make sure they have a different number (number doesn't matter as long as non-edges have the same number as the others, and edges have a different number. when they are an edge. (To select multiple faces in one go, hold down the control key while clicking).

Change the edge numbers according to this picture:



If done properly your chair should now look like this:



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