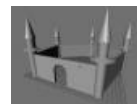




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id4

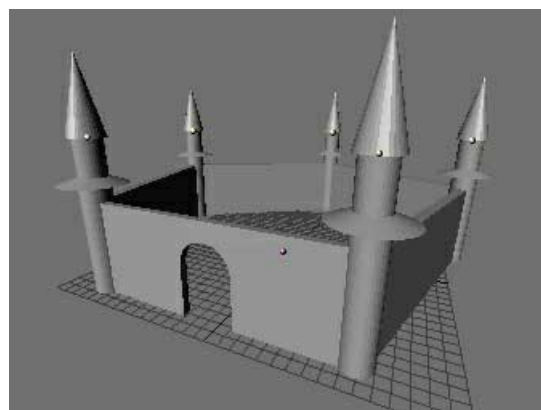
Introduction

I have always been fond of castles. I simply can't resist the urge to create one in Blender every now and then.

This tutorial will introduce you to basic modeling techniques in Blender. It assumes some basic knowledge like adding objects, using **edit mode** and changing the view. These are described in [The Blender User Interface](#).

The castle is used as a starting point for other tutorials on this site like [Texturing a Castle](#).

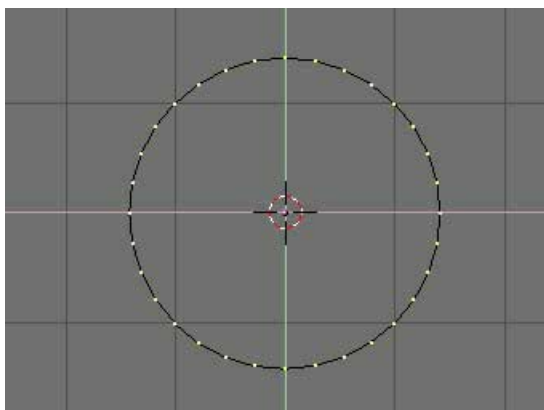
To begin the lesson start Blender or press **Ctrl N** (which starts a new project) if you already have Blender open.



The final result.



Remember to **save** your work early and often! This is a good computing practice which you should follow anyway but is even more important in Blender. If anywhere along the way you find that your castle doesn't look quite right you can press **U** and your model will revert back to the state it was in before you entered **edit mode**. This is Blender's version of an 'Undo' button. 😊



A 32-sided mesh circle.

Creating the tower

The tower is created by simply extruding a **mesh circle** several times. By using both translation and scaling while extruding you can create a nice outline.

Let's start by switching into top view (**Numpad 7**). Remember that each number on your keypad will switch you into a different view. Let's begin creating the top of our tower. Add a **mesh circle** which can easily be done by pressing the space bar, click "Mesh" and then click on "Circle." I left the number of **vertices** on 32 (the default) but if you are on a polygon budget, you may consider changing this to something like 10.

Make sure that you're in **edit mode** before proceeding. If you're in **edit mode** you'll be able to see the individual **vertices** of the circle. You'll recall that **vertices** are the points that define the shape of a 3D object and appear in Blender as small dots. Your screen should look like in the picture to the left at this point. If your circle just looks like a pink outline this means that you aren't in **edit mode** and should press the **Tab** key.

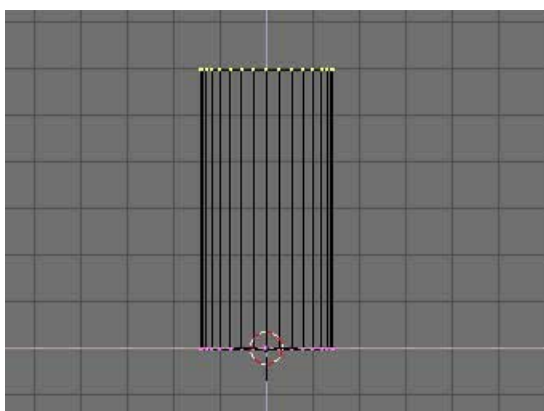
Switch to front view with numpad **1** and press **E** Confirm the requester that pops up to start the extrusion.



Confirm the extrusion.



To confirm any requester in Blender, either click on the text (in this case, 'Extrude') or press **Enter**. To cancel, either move your mouse cursor away from the requester or press **Esc**.



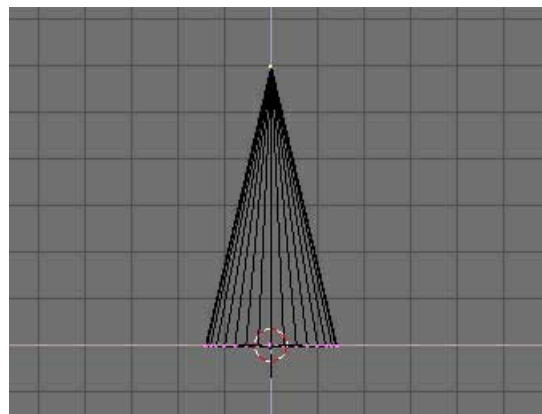
The first extrusion step

After you start an extrusion, grab mode is automatically started. Hold down **Ctrl** to constrain the movement to grid units. This will make your cursor snap to the grid lines in the 3D window making it easier to keep your tower from leaning to one side. 😊

Move your mouse upwards a bit and left click. This part will form the cone on the top of the tower. As you can see extruding an object creates a clone of the **vertices** which you have selected and allows you to extend the body of your object. If you had not been in **edit mode** during this step you would've been unable to **extrude** your circle.

To taper the top, press **S** to start scaling and hold down **Ctrl** again. Move your mouse horizontally to **scale** and left-click once the top has been scaled down to zero (this is shown in the bottom left corner of your 3D window).

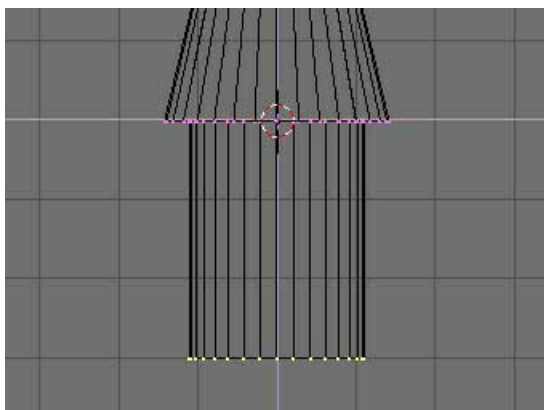
Now I will work from the bottom of the cone and **extrude** the rest of the tower out of it - this uses the same technique as the previous step. First, press **A** to deselect all **vertices** (pressing it again will **select** all the vertices). Select the **vertices** on the bottom of the cone by starting Box Select (**B**) and dragging a rectangle around them.



Tapering the top.



Press **B** twice to use Brush **select** - in this mode, a circle appears. Use this circle to 'draw over' the **vertices** and **select** them. Press numpad **+** and numpad **-** to change the brush size.

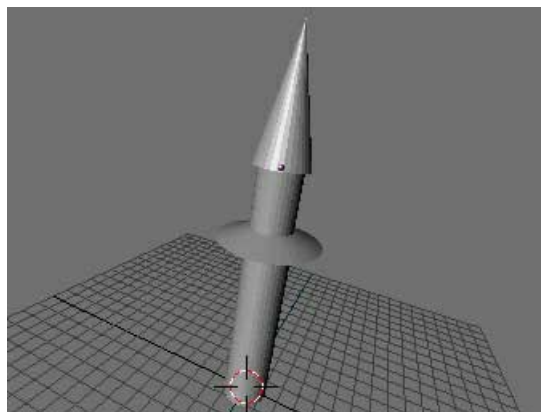


Some extrusion steps.

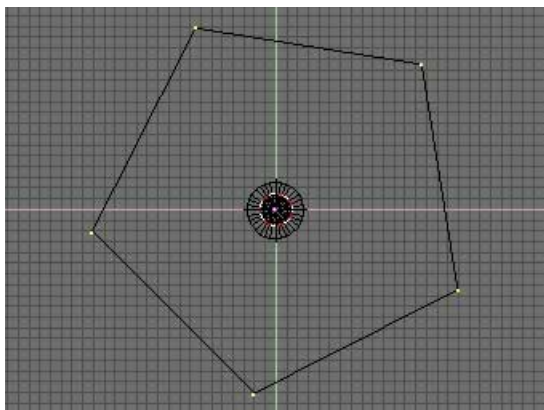
Now we're going to create the body of our tower. For the first step, start the extrusion (**E** key) and then immediately press **S**. Scale the inside of the tower down a bit. When you're satisfied with the width of the body of your tower do a left click to set the size. Next, do a 'normal' **extrude** and drag the selection down.

Don't forget you can use the **Ctrl** key to help keep your tower standing straight and tall. Left click when you're happy with the height of your tower to lock it's size in place.

If you like, you can add some more detail like I have done here. Your tower is ready!



A tower.



5-sided circle.

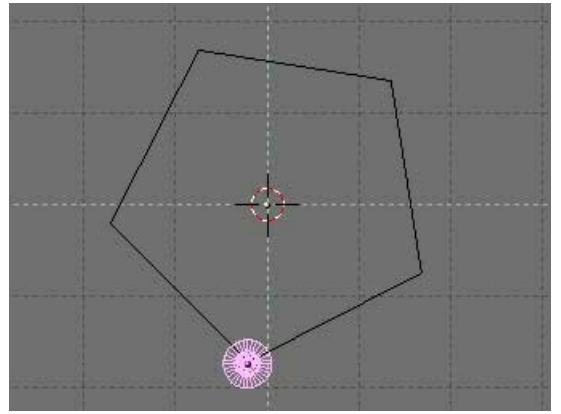
The Castle Wall

I want to create a pentagonal castle wall. To be able to place the towers on the right positions, I use another **mesh circle**. Later on, I turn this circle into the castle wall.

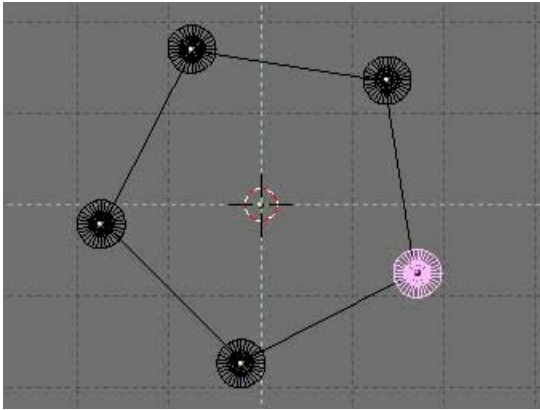
Leave **edit mode** (**Tab**), return to top view (**Numpad 7**) and add a **mesh circle** with 5 sides. Scale it to the right proportions.

By leaving Edit Mode and *then* creating our walls (a 5 sided circle in this case) we're telling Blender to think of our circle as a **seperate** object from the tower. This will make editing our castle wall a lot easier later on.

Leave **edit mode** and **select** the tower with **\square** . 'Grab' your tower (**G** key) and move it to one of the corners of the pentagon. Don't put the center of the tower exactly over the corner of the pentagon, but rather slightly more outward - this is to take the thickness of the wall into account (see below).



Placing the Tower.



Creating copies of the tower.

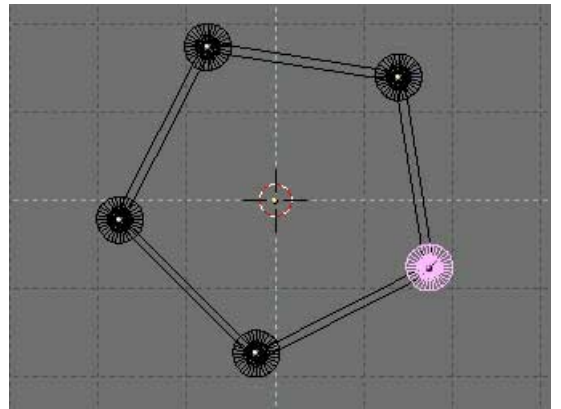
With the tower selected, press **Shift D** to create a duplicate. Grab mode is now automatically started, so you can move the new tower to another corner. Repeat this for all corners.



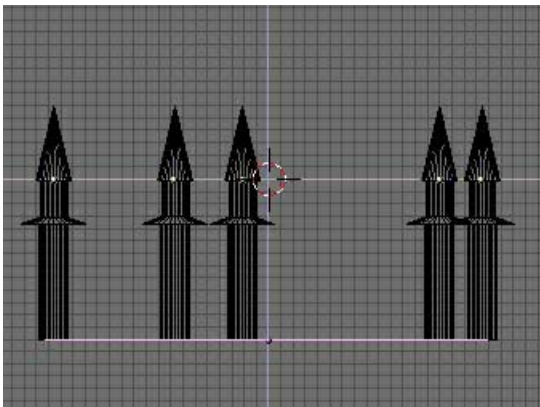
Pressing **Shift D** will make a full copy of the entire object - geometry included. After this, you can edit the geometry of every individual copy without affecting the others.

If you use **Alt D** however, Blender will create an instanced copy. In this case, each copy's geometry is linked to the original data. Changing one individual copy will change every copy along with it. Using instanced copies requires less memory than full copies.

Now to give the castle wall some body, **select** the circle and enter **edit mode**. Select all **vertices** and start extrusion. Scale the selection a bit to give the circle some width.



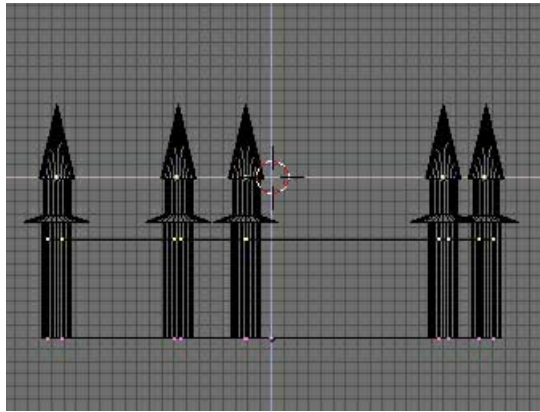
Giving the wall body.



Giving the wall height.

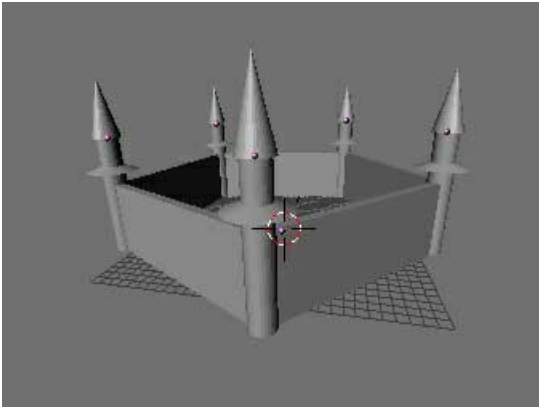
The wall has width now, but no height. Leave **edit mode** and switch to front view with numpad **1**. Your wall now probably starts somewhere in the middle of your tower, so use grab mode to move it to floor level.

While still in front view, **extrude** the wall upward.



Giving the wall height.

This is already starting to look like a castle, isn't it?

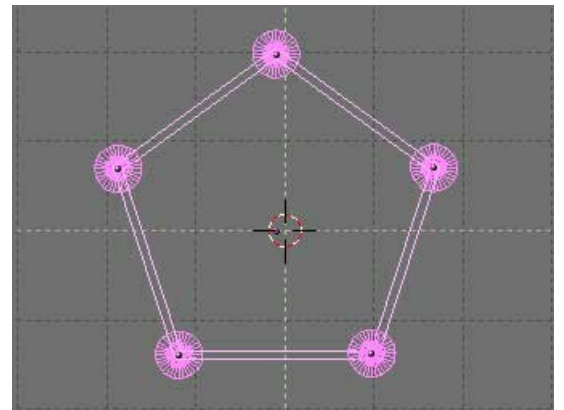


The result so far!

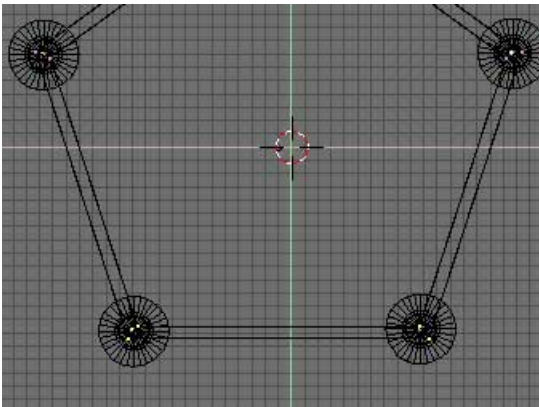
Creating the Castle Door

This is all very nice, but there is no door in the wall yet! Instead of using a Boolean operation to cut it right out of the wall, I will show you how to do this with simple **mesh editing**.

The segment of the wall that I want to work on (the bottom part) is slightly rotated, so I will first make it horizontal. Select all the objects in your scene with **A** and rotate your entire scene until the bottom segment is horizontal. Hold down **Ctrl** to constrain the rotation to multiples of 5 degrees.



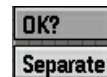
Rotating the scene.



Selecting the bottom wall.

Now I separate the segment of the wall from the rest so that I can work on it. Select the wall and enter **edit mode**. Use **Box Select** to **select** the bottom segment of the wall as shown.

To create a new object out of the selected **vertices**, press **P** and confirm the requester. If you now leave **edit mode**, you will have a new, separate object. Select the new object.



Creating a new object out of the selection.



Moving the wall segment to another layer.

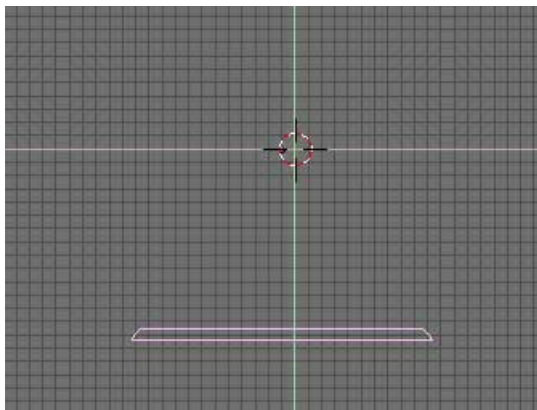
Now to make life a little easier on myself, it is a good idea to move this new object into a separate layer. Doing this will allow me to hide the other objects. With the new object selected, press **M** to bring up the Move Layer requester. Select the second button or press **2** to move the wall segment to layer 2. Press **Enter** when done.



In the bottom of your 3D window, you see a similar row of buttons. It currently has only layer one selected, so moving the wall segment to layer 2 will make it disappear. Shift-click on button two or press **Shift 2** to activate layer 2 as well.

It's a good idea to utilize layers for anything more than a fairly simple project. This will allow you to break down your project into more manageable and flexible chunks. It will also enable you to make changes far more easily than if you had everything on one jumbled, complicated layer.

For now, I only want to see the wall segment so press **2**.



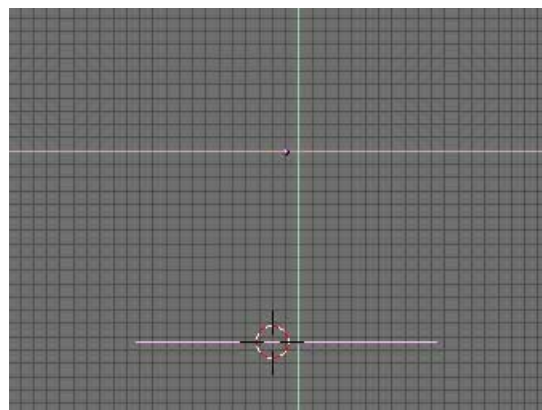
Showing only the wall segment.

ERASE
Vertices
Edges
Faces
All
Edges & Faces
Only Faces

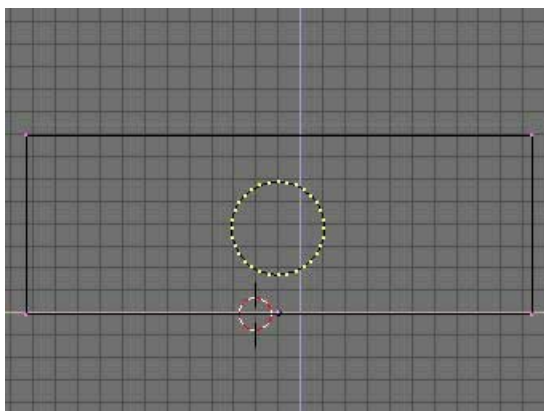
Removing vertices.

First I will create a flat image of a wall with a door in it - later I can **extrude** this to get a wall with a hole in it. First I need to remove half of the **vertices**. Enter **edit** mode and select the top **vertices** using Box Select. Press **X** to bring up the Erase requester. Select 'Vertices'.

In top view, carefully place the 3D cursor on the line. This determines where the next shape will be placed. If you don't line up your 3D cursor on this line your door won't come out correctly later!



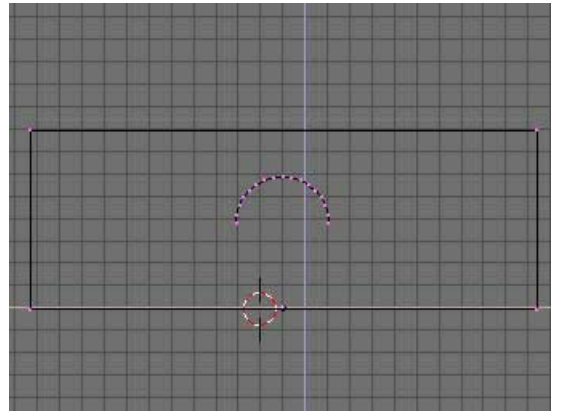
Placing the 3D cursor.



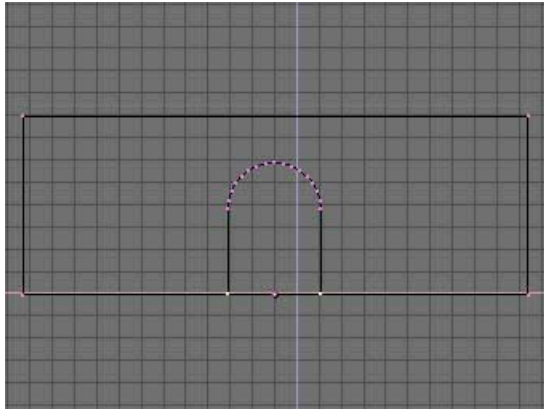
Adding a circle to the door.

Switch to front view, enter **edit mode** (**I**) and add a 32 segment **mesh** circle. This will become the top of the door. Move and **scale** it a bit so that it has the right size and position.

Now press **A** to deselect all vertices and select only the bottom half using Box Select. Press **X** and select 'Vertices' when the Erase requester pops up to delete the bottom half of the circle.



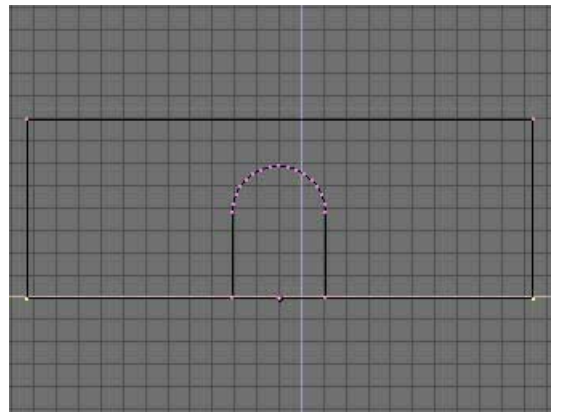
Deleting half of the circle.



Extruding the circle to form a door.

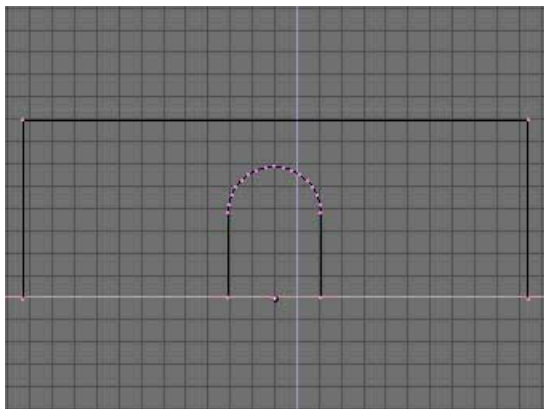
Select the two lowest vertices and extrude them downwards so that they match the bottom edge of the castle wall.

Now I need to attach the door to the rest of the wall. First, I need to remove the original edge at the bottom of the wall. Select the two vertices at the bottom left and bottom right corners of the wall as pictured on the right.



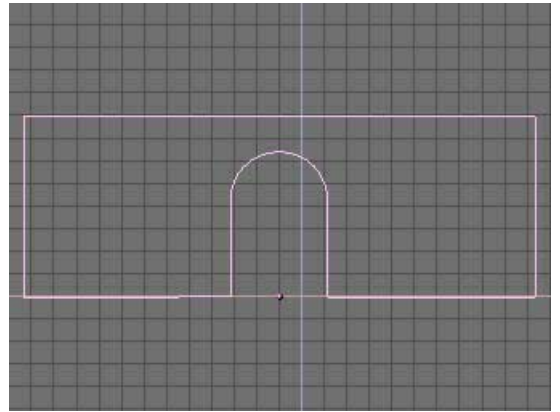
Preparing to remove the bottom edge.

Press **X** and select 'Edges' to remove the bottom edge.

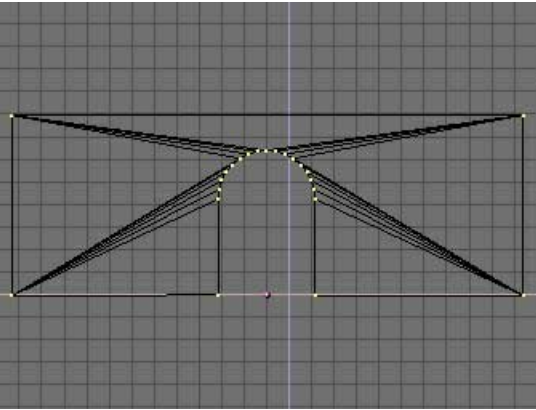


The bottom edge removed.

Connect the corners of the wall to the corners of the door by selecting two **vertices** and pressing **F**. If you leave **edit mode** now, your model will look like this:



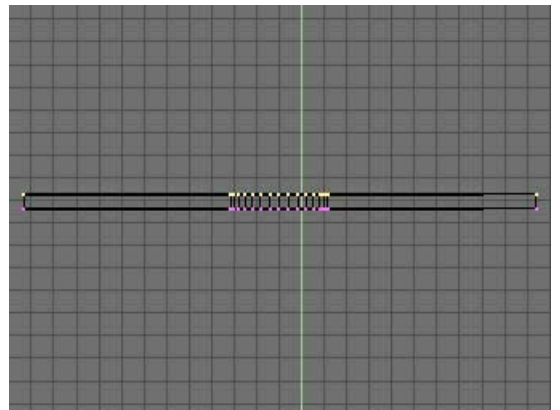
Reconnecting the outline.



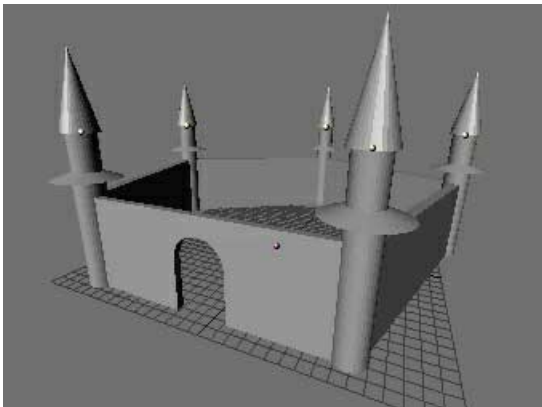
Filling the wall.

As the last step I will give the wall depth again. Switch to top view and **extrude** the wall slightly upwards. Try to match the depth of the other wall segments. If you are not sure about the depth, press **Shift | 1** to turn on layer one.

The outline is now all right, but the shaped is not filled. You will notice this when you switch to shaded view with **Z**. To fix this, enter **edit mode** and select all vertices. Press **Shift | F** to fill the shape.



Extruding the wall and door.



When you are done, leave **edit mode**, activate layer 1 (**Shift | 1**) and turn on solid view with **Z**. I also turned to perspective view (**Numpad 5**) and rotated the view a bit.

Quite impressive for only a few steps, isn't it?

The next step is to apply some nice **materials** to your model. This is explained in detail in [Texturing a Castle](#).