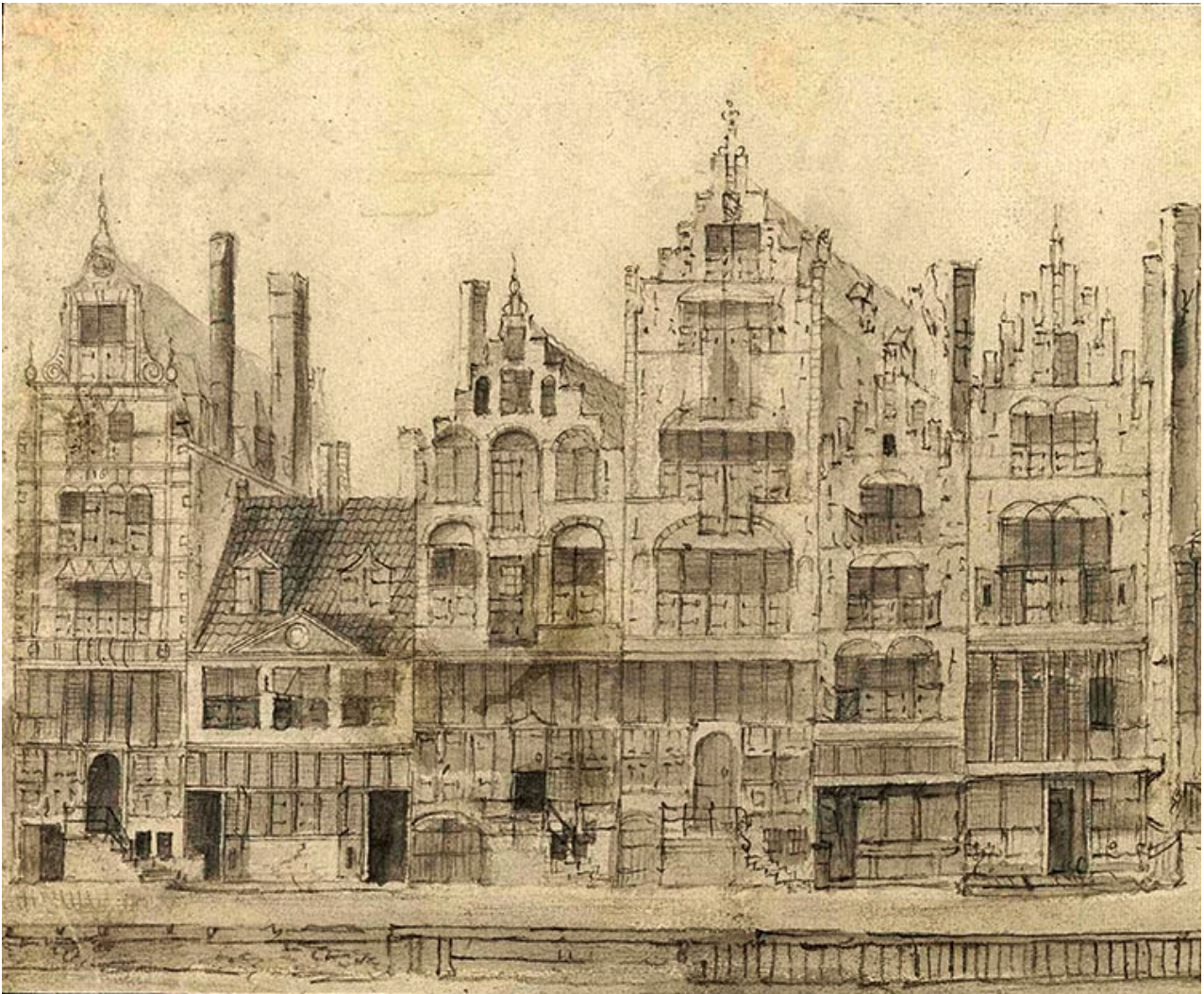


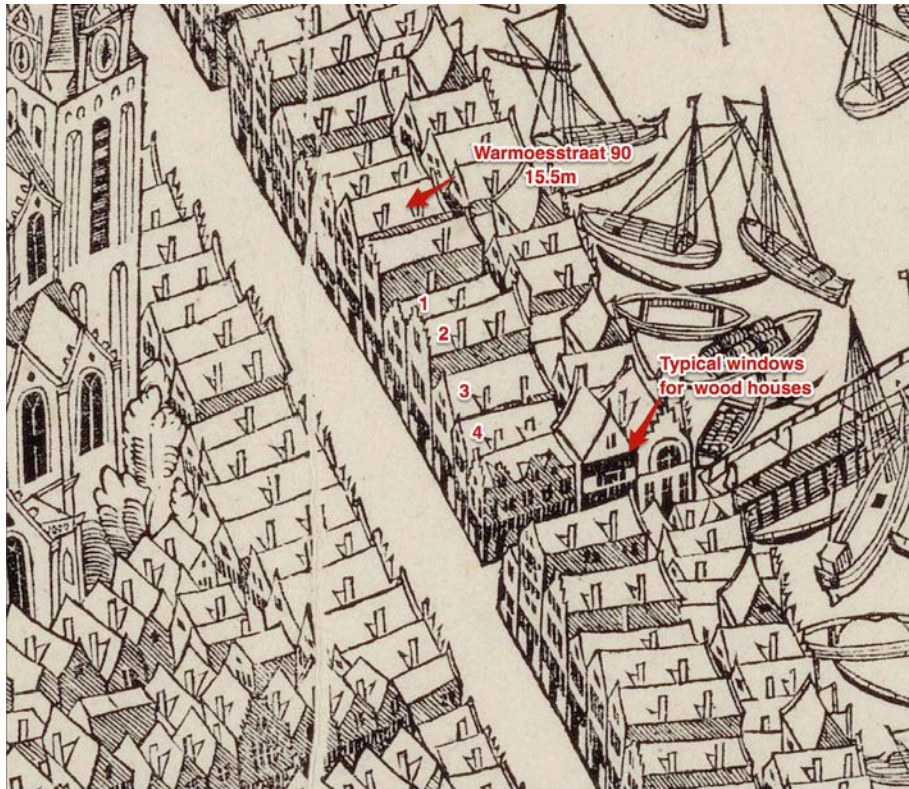
Reconstructing Historical Houses

Manual: Weixuan Li, 2017



The goal of this assignment is to reconstruct two types of houses observed from the 16th-century Warmoesstraat – houses made of wood and brick.



Still remember the houses we analyzed from last weeks? This week, we are going to make house#1 (brick) and #3 (wood) with more detail. You can also try making a typical window-line for wood houses marked on the map below:






A recap for our reasoning last week: compared to Warmoesstraat 90, the houses with number 1-4 in the map above seem to be much smaller and have fewer stories than Warmoesstraat 90.

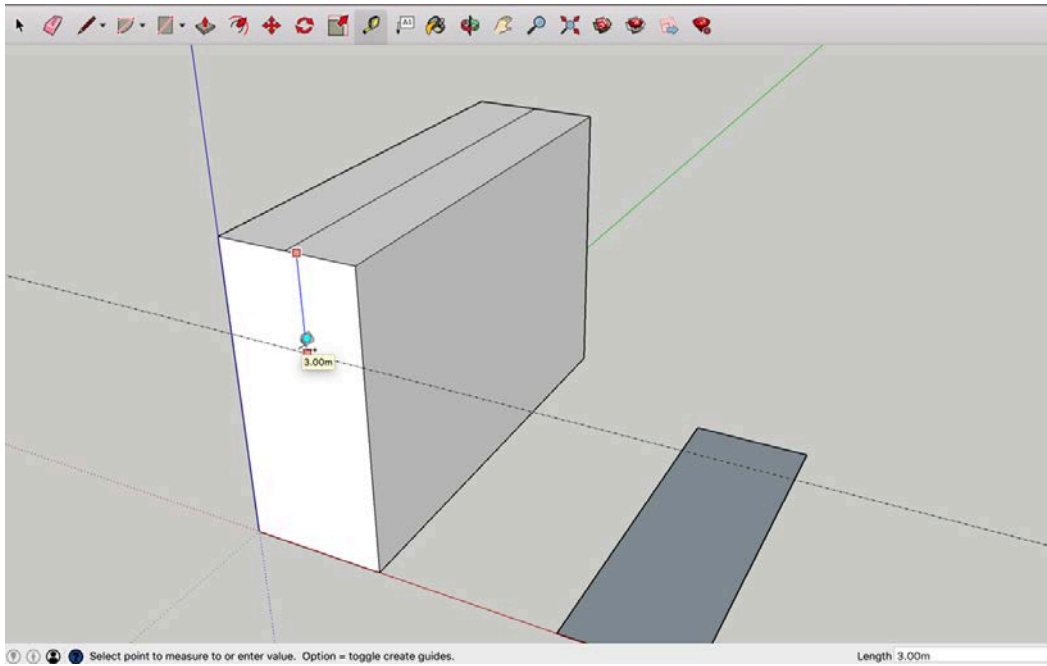
- **House # 1** seems to have a ground floor slightly lower than Warmoesstraat 90, based on the standard floor height, presumably 4 meters high. It seems to have a standard first floor, probably also 3.5 meters high and an attic, 2.5 meters high. Therefore, # 1 might be ca. 10 meters high from street level to the roof ridge.
- **House # 3** looks lower than #1. Presumably they have a 4-meter ground floor, 3-meter first floor and a 2-meter attic – probably 9 meters high.


Let's start with House # 1, similar to what you have done before – create a basic structure of the house:

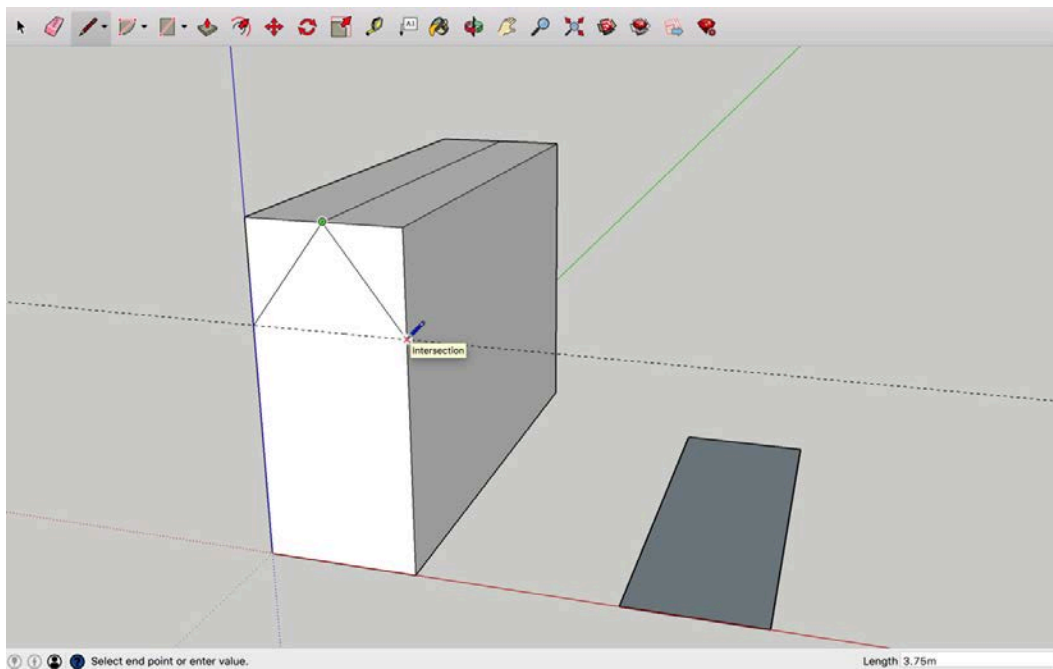
1. Select the **Push/Pull** tool (). With the Push/Pull cursor, click the face on the left.
2. Click again to set the size of your extrusion when the extrusion reaches 10 meters. Or you can enter the height, which appears in the Measurements box as you type, 10 (meter) and then press **Enter**.
3. Select the **Line** tool () and draw a line from the midpoints of the top surface as the ridge of the roof.

To create a guideline for the roof:

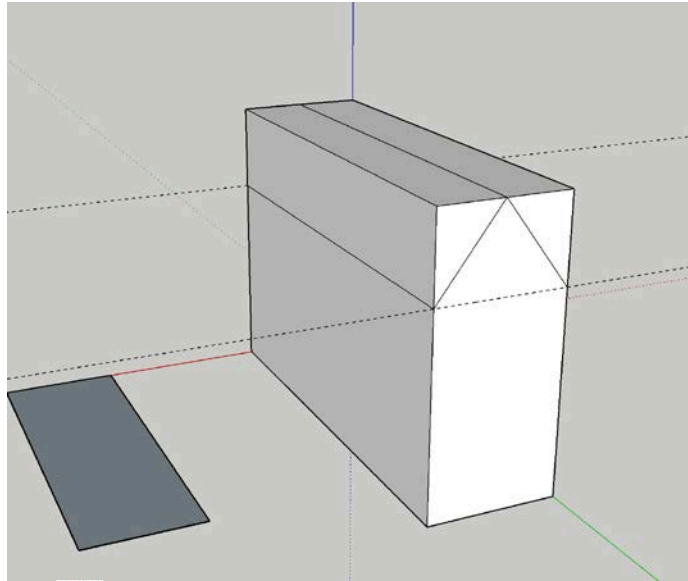
4. Select the **Tape Measure** tool () or press the T key, and press Ctrl (Microsoft Windows) or Option (Mac OS X). A plus sign appears next to your Tape Measure cursor ().
5. Click the starting point (the middle point of the ridge) and move the cursor down until the extrusion reaches 3 meters or type 3 in Measurement box and hit Enter (you can always erase the guide line using **Eraser** tool ()).




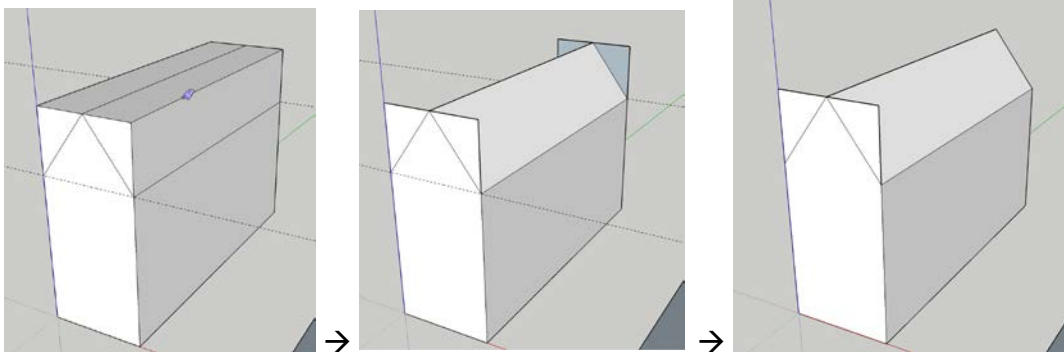
6. Select the **Line** tool () and draw a line from the roof ridge to the intersection of your guide line to create a roof shape



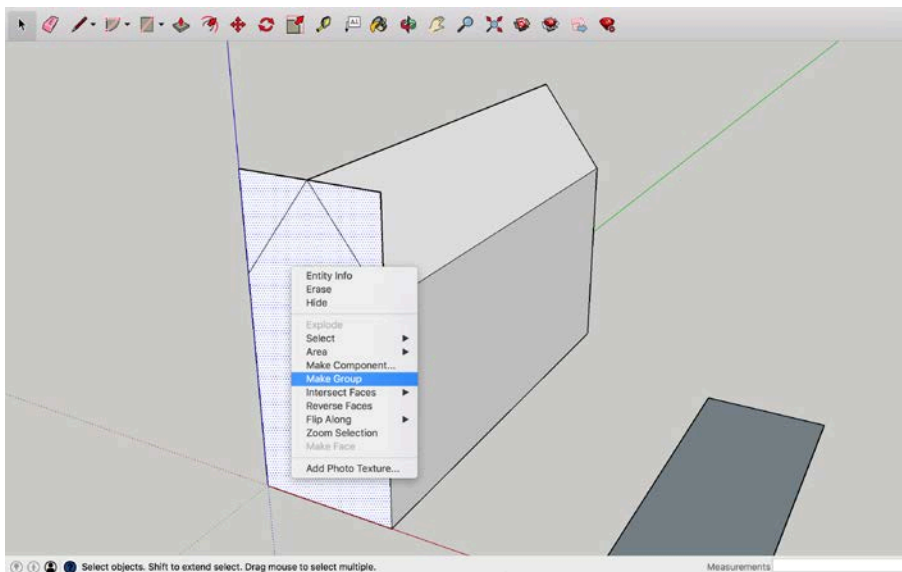
7. Repeat it for the back of the house, and connect the front and back of the house using **Line** tool.




8. Click the **Eraser** tool () and erase the upper edges of the block (and the guide line too, if you want), then erase the back edges of the roof as well.

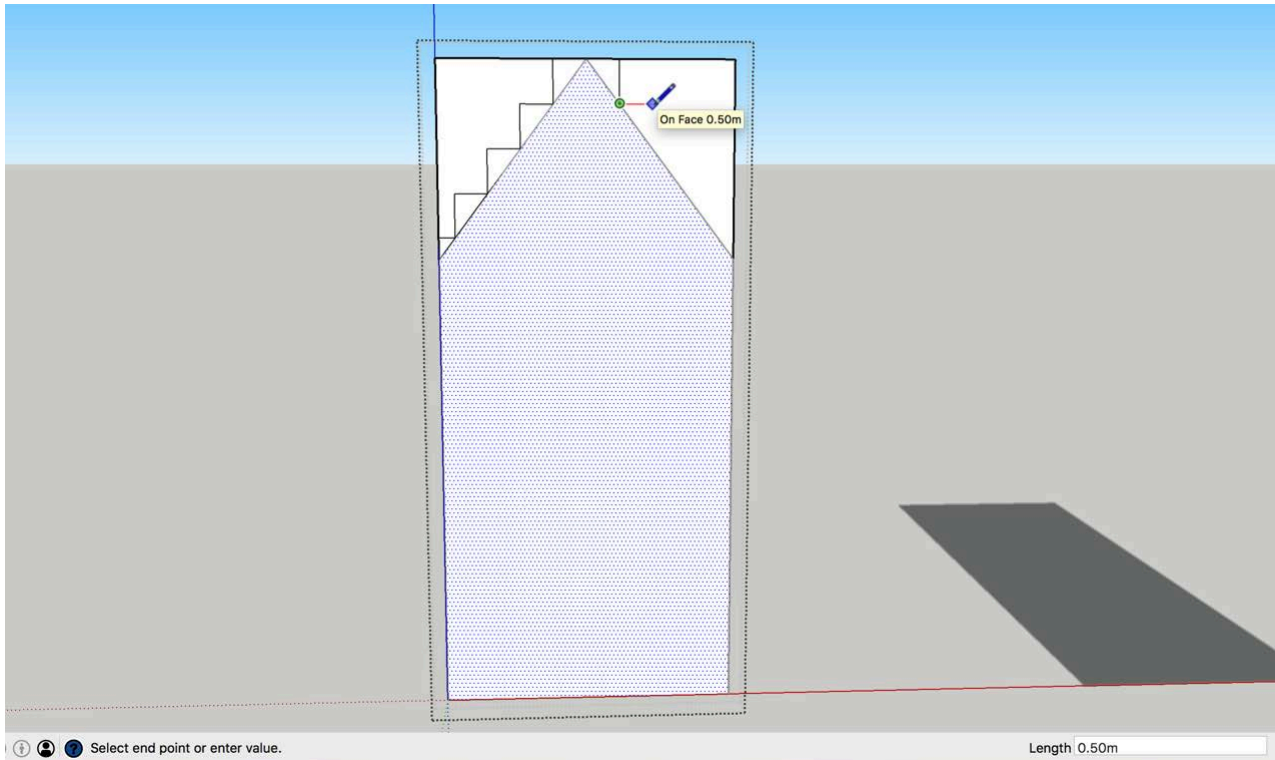




9. Select the surface of the front façade (the rectangle) (hold Ctrl/Command to select multiple faces) and make it a group (right click after selection → Make Group)

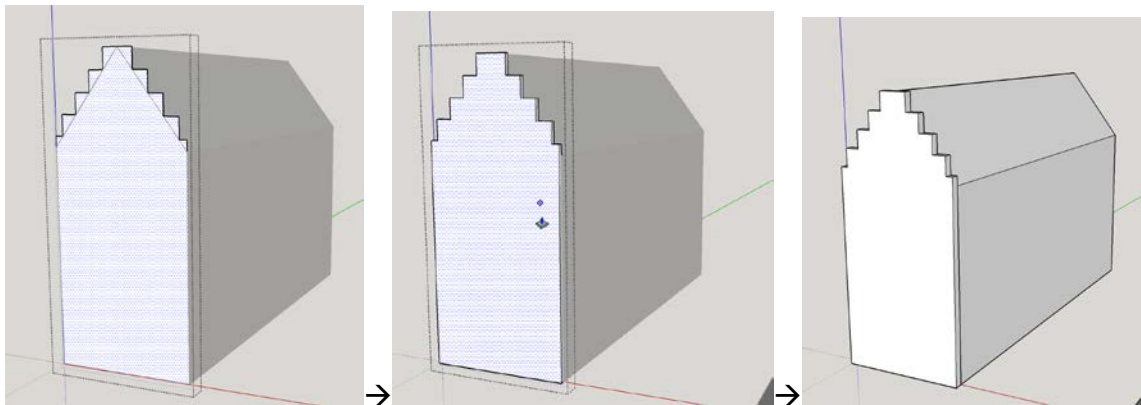


To create the stair façade:




1. Double click the group you just made and go into the edit mode
2. Select the **Line** tool () and draw the lines for the stairs – 0.5 meter (horizontal) and vertical lines reach the ridge.




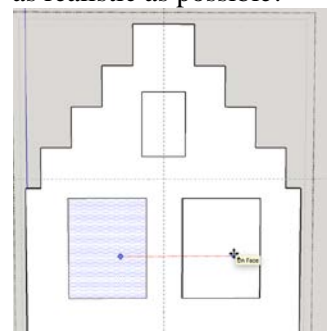
3. Erase () all the excess lines (the original roof ridge and the edge of upper corners of the rectangle) to make the surface one integrated surface (the diagonal edges overlap with the ones in the back, so you may still see the diagonal lines after you erase them in your façade group),
4. Once your façade is one integrated surface, select the **Push/Pull** tool () to make the façade 3D:



Now, you have a house with a stair façade! Now, let's add more details to the façade. According to our earlier reasoning, the ground floor is 4 meter high, first floor 3.5 meter and attic 2.5 meter.

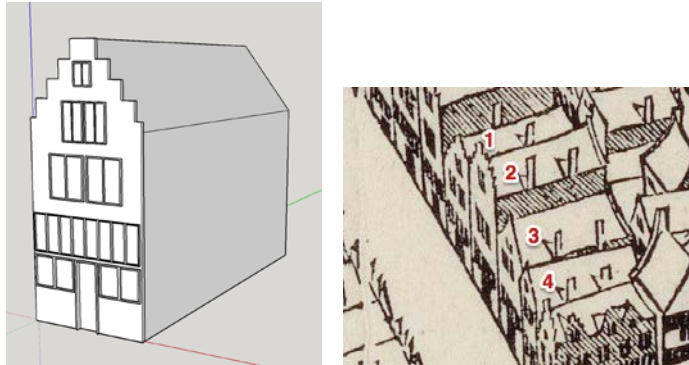
1. Create guide lines for the floors: Click **Tape Measure** tool and make sure it has a plus next to the cursor (), click from bottom line and move your cursor upwards until it reaches 4 meter (or type it in the measurement box) and repeat it for the first/second floor.
2. Double click the façade into the editing mode and select **Rectangle** tool () or **Line** tool () to draw the windows according to Cornelis Anthonisz's map – you can draw as realistic as possible!

[Tips] If you want to duplicate the 2D rectangle (before you use Push/Pull tool): select the surface → select the **Move** tool () and hold Ctrl (Windows)/Option






(Mac) → move your selected surface → click again to release the copy to the desired location – so your double windows will match perfectly.

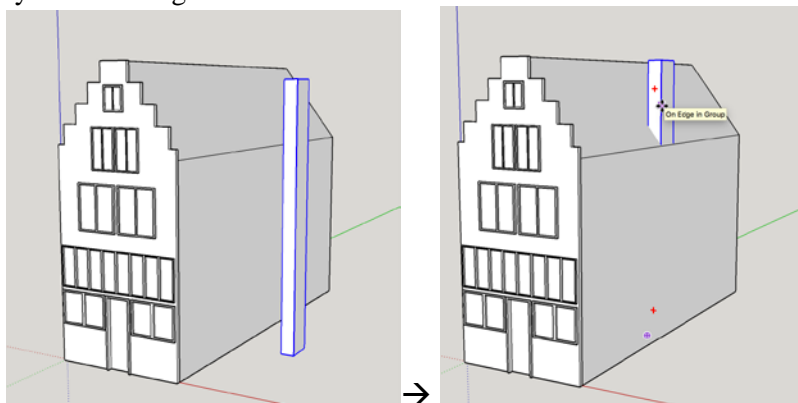
Your finals may look like this or even better:



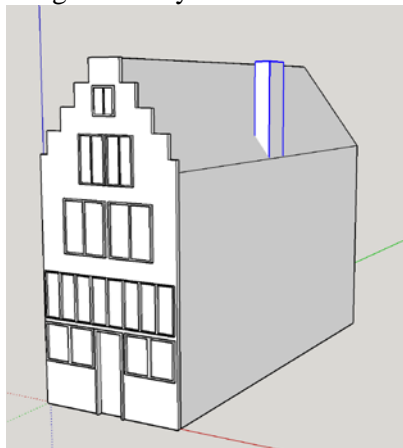
Last step: Chimneys!

The simplest way is to add chimneys (as rectangular block) to the house:




1. Select **Rectangle** tool () and draw a 0.5x1 meter square, then select the **Push/Pull** tool () and make a 10 meter block
2. Select the whole block and make it a group
3. Select the **Move** tool () and click the block and move it to the middle of the house according to the map, if your house has more than one chimney, then duplicate the chimney by holding the Ctrl/Option key and move again to the back side

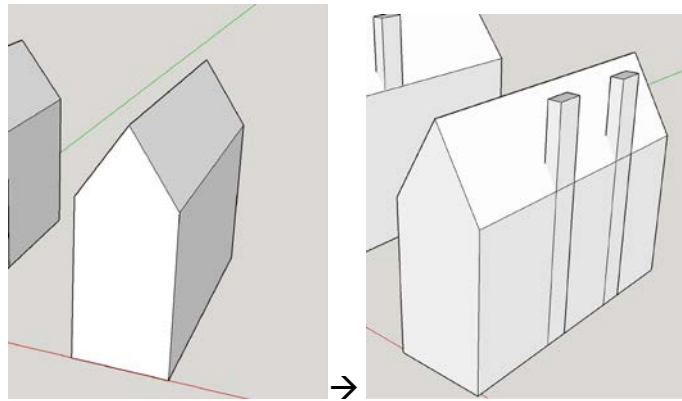




Now, you have successfully re-constructed a brick house with façade and chimneys! Feel free to add more details to make it more realistic – don't forget to cite your source!



When it comes to the wood house, like House # 3, the façade is much simpler than the brick one, and the timber lower part is the same. Similar to the basic structure you have created last week:

1. Select **Push/Pull** tool () and move the cursor to 6 meters,
2. Select the **Line** tool () and draw a line from the midpoints of the top surface as the roof ridge.
3. Select the **Move** tool () and click the **Move** tool cursor on the line you just drew
4. Move the cursor upwards along the Blue Axis, click again when the extrusion reaches **3** meters, or enter 3 and press **Enter**.
5. Then add chimneys to it – as you just did to the house #1



Now you can go to the façade and add windows to it – like you just did for the brick house (select **Rectangle** tool () or **Line** tool () to draw the windows according to Cornelis Anthonisz's map. Your final look will be much better than this:

