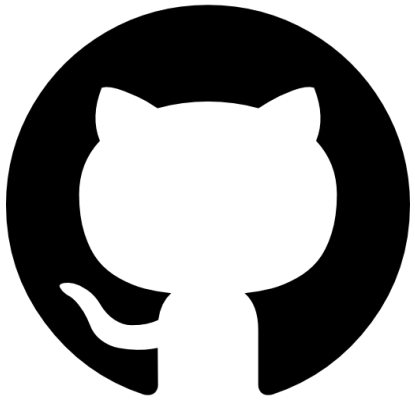
DTU



Guided Tutorial

Made by s203634 & s203595

1. Download blender bim

First of all, You need to have blenderbim downloaded.

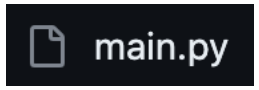
You can download it on the following page:

- https://blenderbim.org/download.html

2. Download our script

Second, go to our GitHub page, and download our script (main.py):

- https://github.com/frejahbarkler/dtu_course_41934_group15/tree/main/A4

It should look like this: 

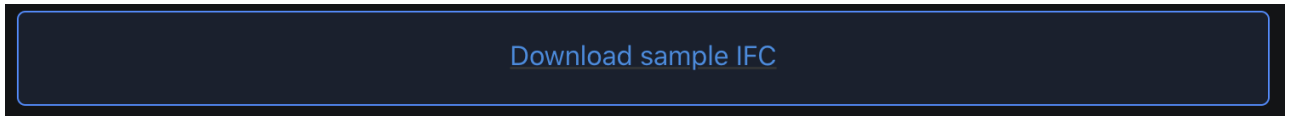
3. Save your ifc file in a folder named **model**

You should now create a folder at the same location as the script.

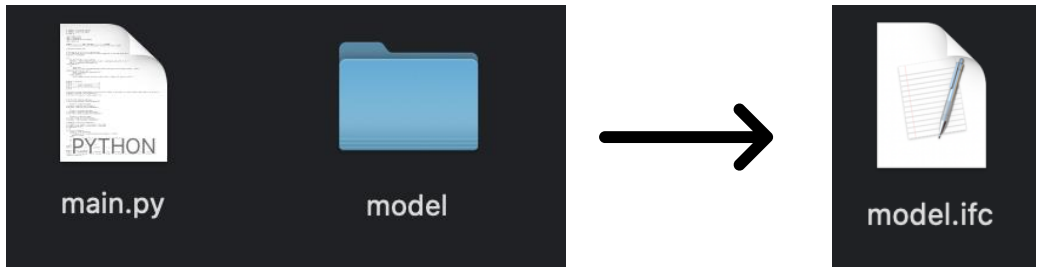
The folder should have the name: **model**

You can perhaps download the sample ifc-file via the following link

- https://blenderbim.org/docs/users/exploring_an_ifc_model.html



4. Name your ifc file **model.ifc**

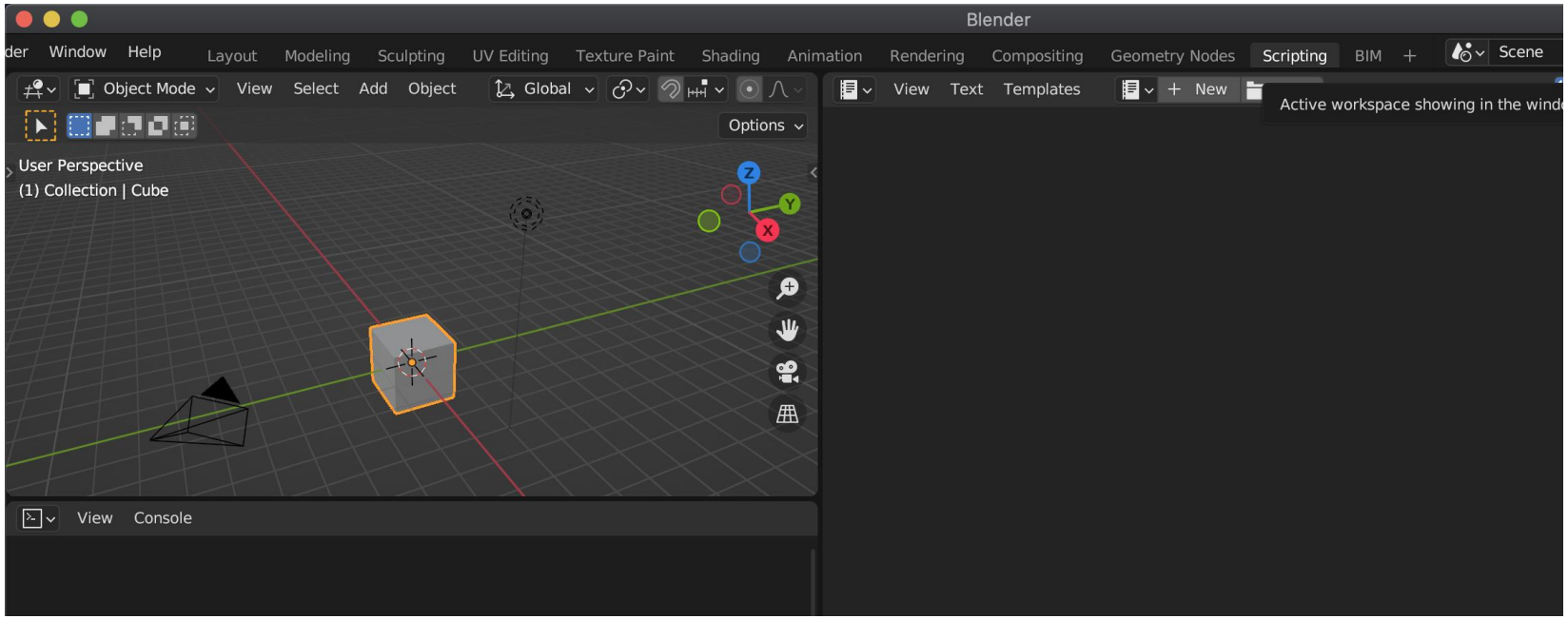


5. Open BlenderBim through Terminal

Open the terminal, find the path that guides to blender, and type "; ext;"

An example could be: */Applications/Blender.app/Contents/MacOS/Blender ; exit;*

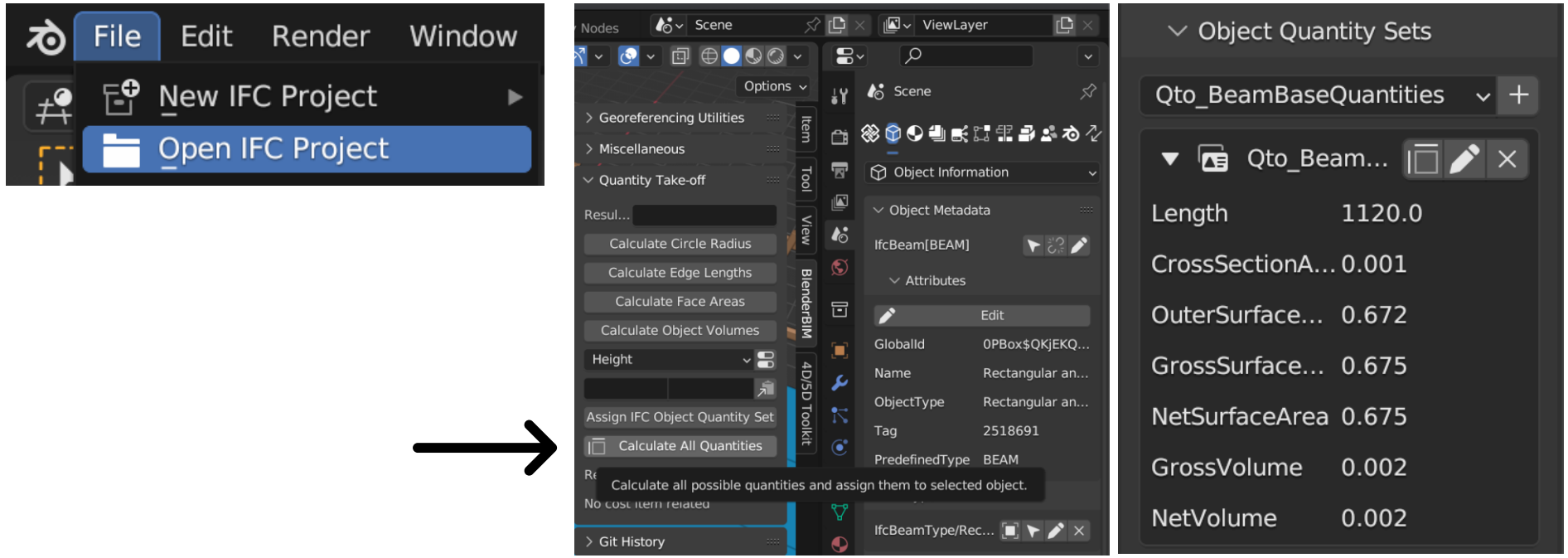
Then go to "scripting" mode inside BlenderBim 



OBS: Check that geometry is loaded into the model!

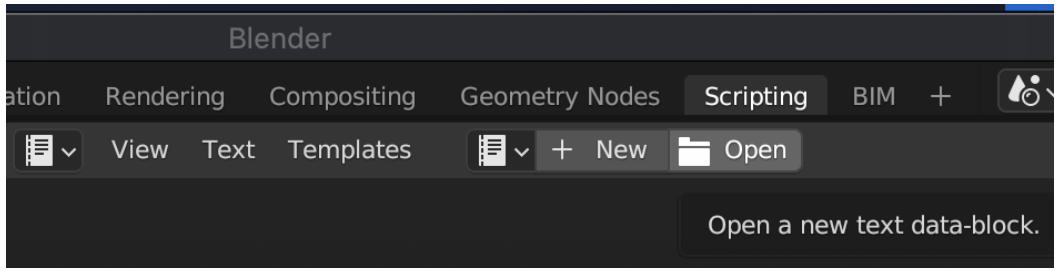
For this tool to work – make sure that the geometry is loaded into all structural objects in the model!

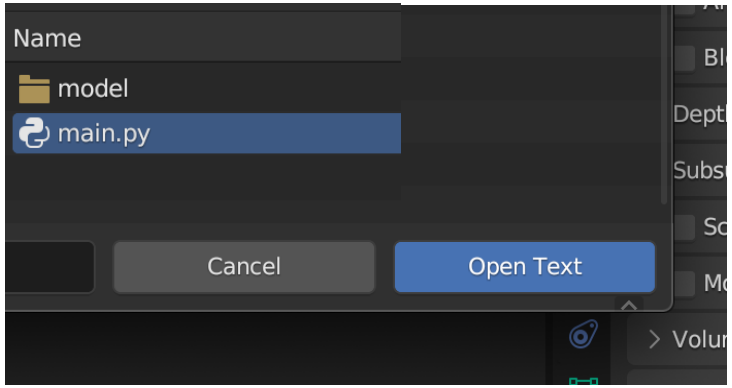
- This can be done by opening the model through blender, virtually clicking on the elements, and assigning them their geomitric values.



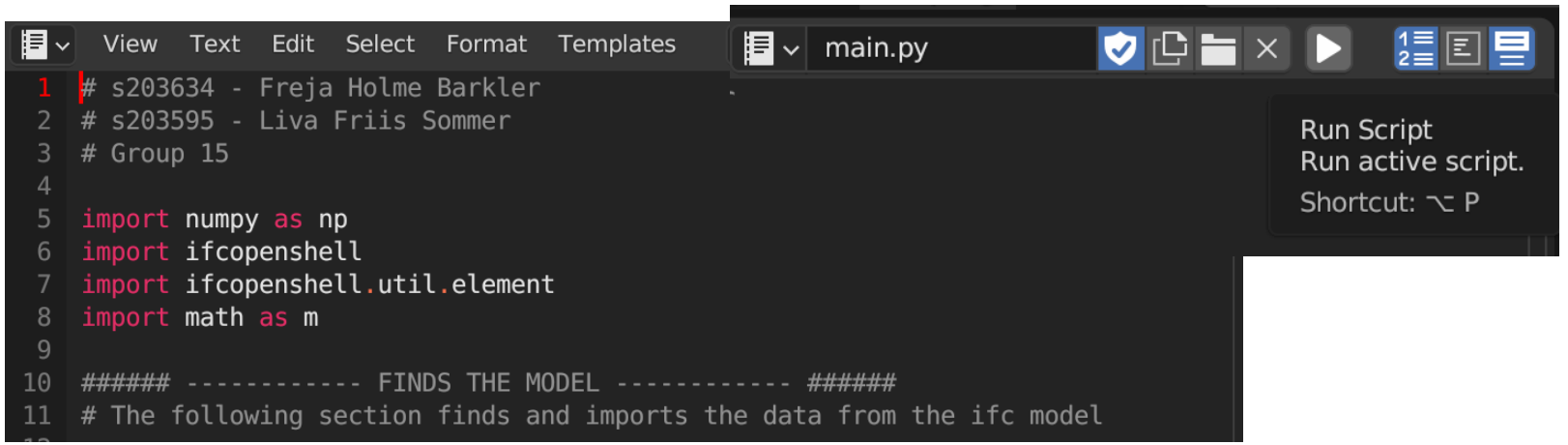
6. Open the python script in BlenderBim

... and press "Open Text"





7. Run the script



8. The output will be displayed in the terminal

Furthermore you'll have to follow the guidance, that is displayed in the terminal.
Note: You'll have to answer the questions INSIDE the terminal in order to complete the export of the output!

```
In the following we will be considering the structural related para
meters of the materials.
You are given two options:
  1. To assign the material parameters yourself for a list of  11
materials.
  2. To choose already programmed values for a selected few materia
ls.
Please type the number of the option you choose:
```

(If you want to finish quickly, choose 2!)

After implementing your answers, the script will ask you to be patient while it produces the output - and exports it to an excel file!

```
Please have patient, while the geometry and loads are being program
ed. This might take a while.
```

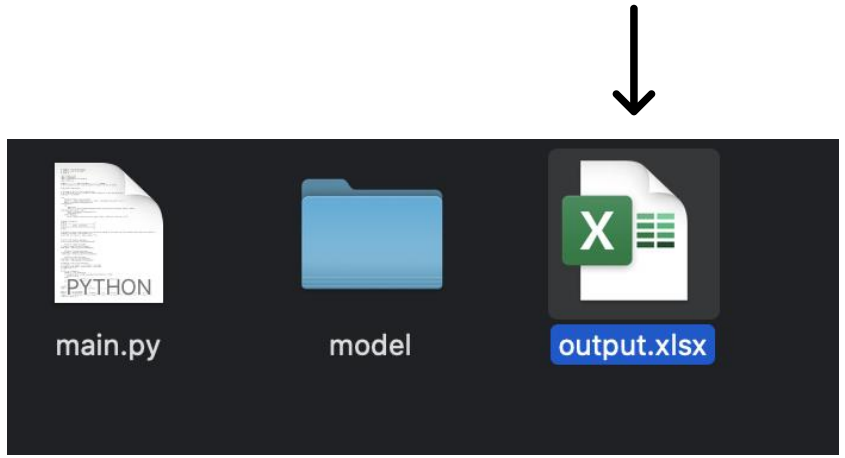
9. The output excel-file

The output is now exportet to an excel-file, that is automatically saved to your computer at the same location as the python file.

The excel file will have the name "output.xlsx"

Note: If you already have a file at this location with an identical name, this file will overwrite yout old excel file!

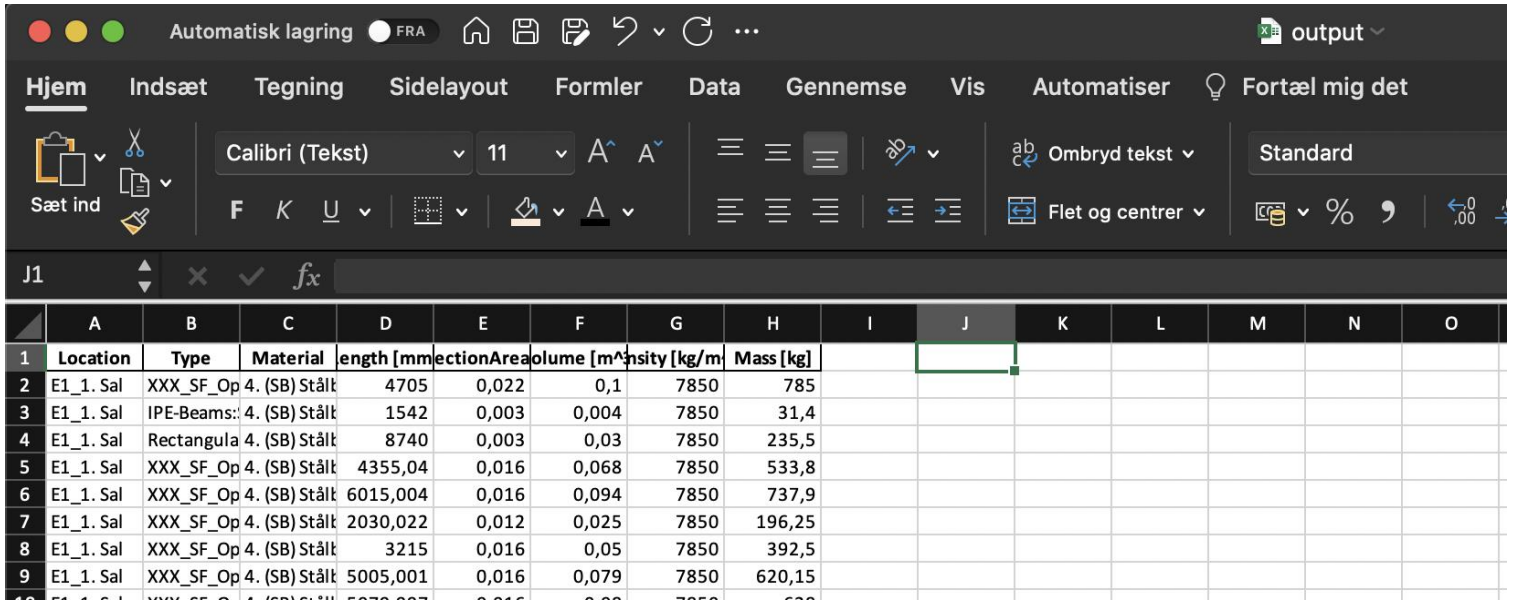
```
The waiting time is over!
The script will export data on the structural elements to an excel
file, which will be saved in same location as the workbook.
Moreover, the script saves a modified ifcmodel with the newly assig
ned propertysets.

/main.py:855: UserWarning: Pandas requires version '3.0.3' or newer
 of 'xlsxwriter' (version '1.2.9' currently installed).

The path of the excel file is,
 /Users/frejaholmebarkler/Desktop/Advanced BIM/Pyhton_Scripts_in_Bl
ender/A4/output.xlsx
The path of the modified ifc model is,
 /Users/frejaholmebarkler/Desktop/Advanced BIM/Pyhton_Scripts_in_Bl
ender/A4/model/my_ifcfile.ifc
```



10. Access your results!

Now click on the output.xlsx file to access your data

Note: The script will aslo save a new ifc-model, with the added information. It will be located next to the original ifc file and named: my_ifcfile.ifc



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Location	Type	Material	ength [mm	ectionArea	olume [m^	nsity [kg/m	Mass [kg]							
2	E1_1. Sal	XXX_SF_Op	4. (SB) Stålb	4705	0,022	0,1	7850	785							
3	E1_1. Sal	IPE-Beams::	4. (SB) Stålb	1542	0,003	0,004	7850	31,4							
4	E1_1. Sal	Rectangula	4. (SB) Stålb	8740	0,003	0,03	7850	235,5							
5	E1_1. Sal	XXX_SF_Op	4. (SB) Stålb	4355,04	0,016	0,068	7850	533,8							
6	E1_1. Sal	XXX_SF_Op	4. (SB) Stålb	6015,004	0,016	0,094	7850	737,9							
7	E1_1. Sal	XXX_SF_Op	4. (SB) Stålb	2030,022	0,012	0,025	7850	196,25							
8	E1_1. Sal	XXX_SF_Op	4. (SB) Stålb	3215	0,016	0,05	7850	392,5							
9	E1_1. Sal	XXX_SF_Op	4. (SB) Stålb	5005,001	0,016	0,079	7850	620,15