



ModelBuilder

ModellT: Building modeller

CompLib: Component modeller

Thermal

Lighting

Solar

Value

Cost

Evacuation

Mechanical

Electrical

CFD

Untitled

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01

Model

- No spaces



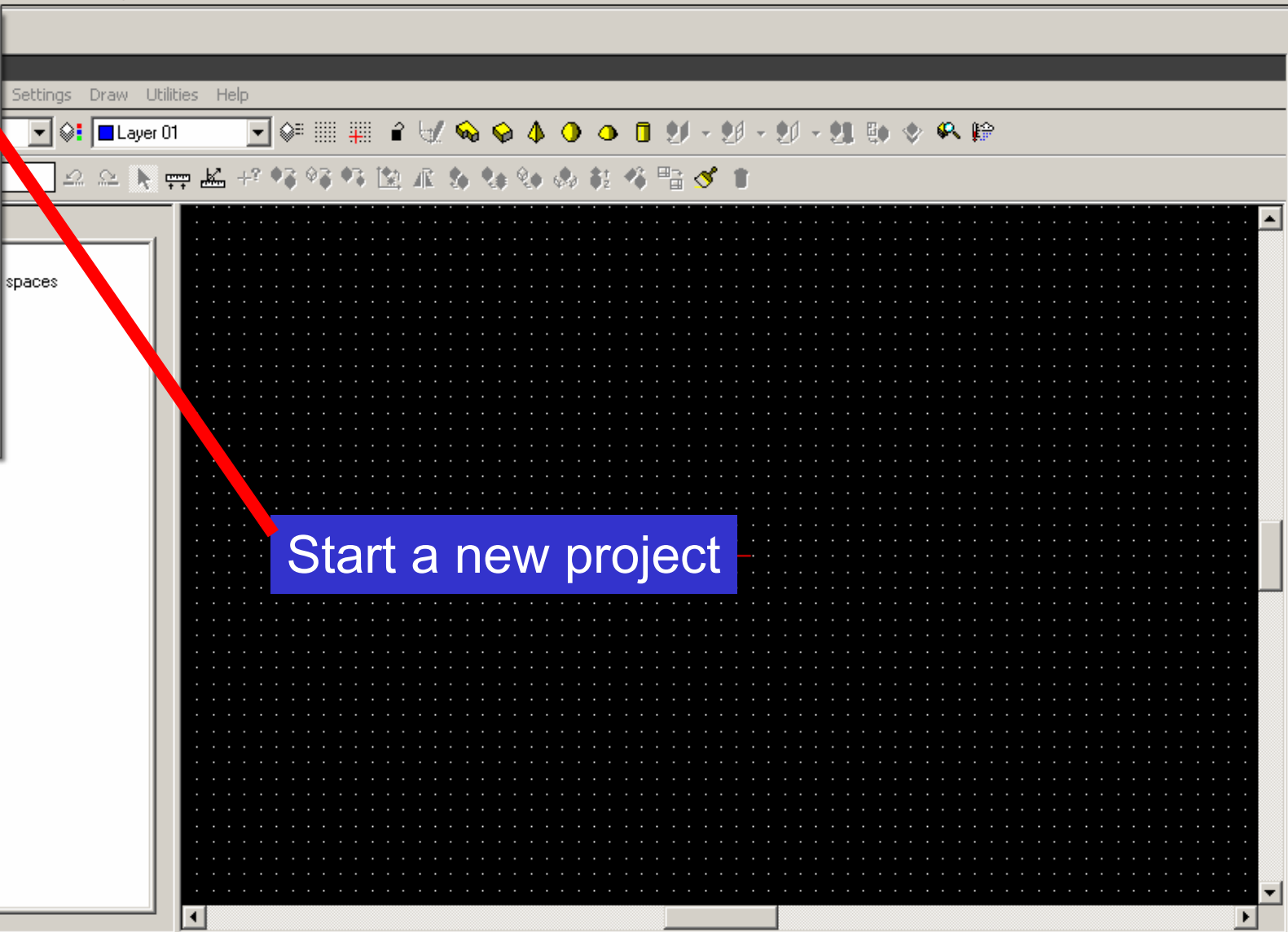
Plan Model

	Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer
	-	-	-	-	-	-

- New Project...
- Open Project...
- Save Project
- Save Project As...
- Archive
- Print...
- 1 serious\_01
- 2 C:\ANY\...\Model\_01
- 3 C:\ANY\...\Template\_01
- 4 C:\IES\...\teaching\_02
- 5 C:\IES\...\teaching\_01
- 6 C:\IES\...\My\_first\_model
- 7 C:\IES\...\repro\repro
- 8 C:\IES\MODEL001\der\der
- Exit

Settings Draw Utilities Help

Layer 01



A large 3D workspace with a black grid floor. A red arrow points from the 'New Project...' menu item to the center of the workspace. A blue callout box with white text 'Start a new project' is positioned over the arrow.

- Thermal
- Lighting
- Solar
- Value
- Cost
- Evacuation
- Mechanical
- Electrical
- CFD

Plan Model -16.50, -4.50, 0.00

Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer



ModelBuilder



ModellT: Building modeller



CompLib: Component modeller

- Thermal
- Lighting
- Solar
- Value
- Cost
- Evacuation
- Mechanical
- Electrical
- CFD

Untitled

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01

Model

- No spaces

**New Project**

Project Templates

Project name:

Location:

... (ellipsis button)

Create

Close

**Browse for Folder**

Select project folder.

- homes on 'rumba' (H:)
  - 6e-cadlab
  - apache
  - dos
  - Lodge
  - mail
  - private\_html
  - Profiles\_Do\_Not\_Delete
  - ProjectM2**
  - public\_html
  - quarto
  - sun
  - suntest

OK Cancel

Click on ellipsis to Browse

Plan Model -16.50

Room Name	Room ID	Volume (m³)	Floor



ModelBuilder

ModellT:  
Building  
modeller

CompLib:  
Component  
modeller

Untitled

Colour 01 Layer 01

Model

- No spaces

**New Project**

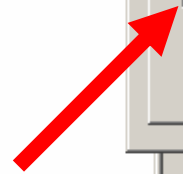
Project Templates

Project name:  
Example01

Location:  
H:\ProjectM2\

Create

Close



H Drive – note large files can be created

- Thermal
- Lighting
- Solar
- Value
- Cost
- Evacuation
- Mechanical
- Electrical
- CFD

Plan Model -16.50, 3.50, 0.00

	Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer
♥						



ModelBuilder



- Thermal
- Lighting
- Solar
- Value
- Cost
- Evacuation
- Mechanical
- Electrical
- CFD

ModellT - Untitled.mit - Plan : Model

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01

**Space Settings**

Reference: new\_space\_01

Placement

Plane (m): 0.00

Height/depth (m): 4.00

Segments: 10

Create inner volume

Close Perimeter

Active Templates >>

**Locks**

Grid

Axis

Endpoint

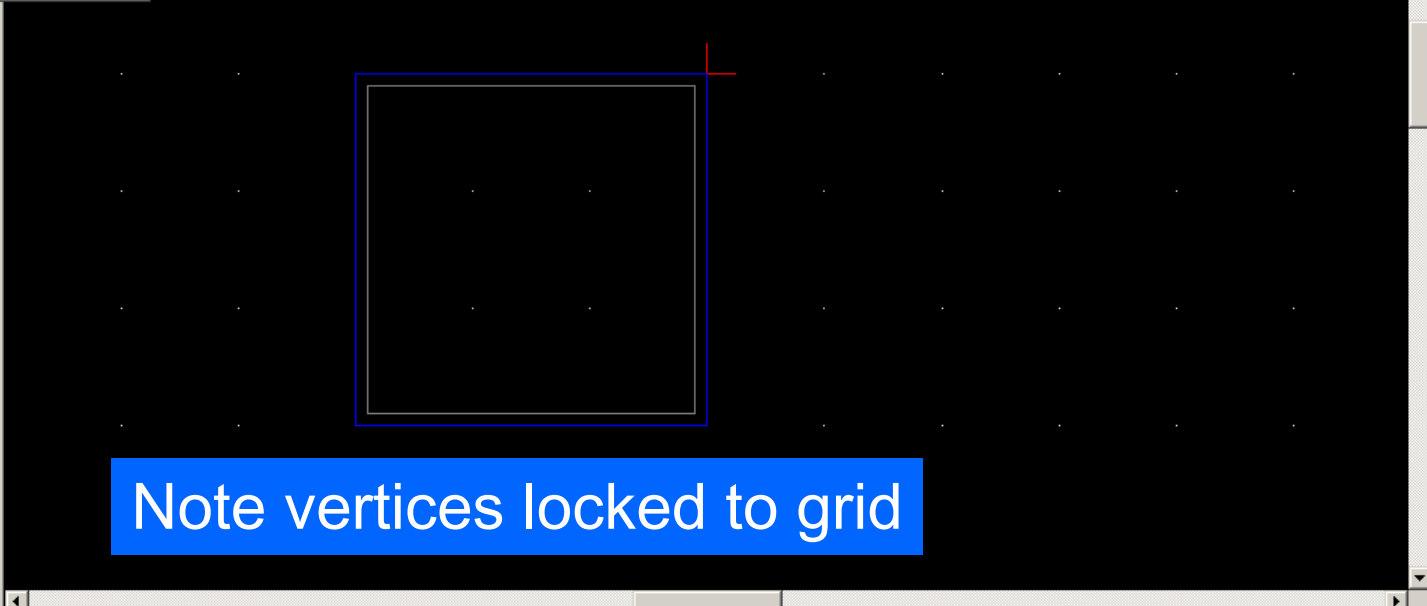
Midpoint

Perpendicular

Draw a rectangular room

Click on LOCK to define

Click on GRID to get a lock onto a grid



Note vertices locked to grid

Plan Model -5.00, -5.00, 0.00

Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer
♥					



ModelBuilder

ModellT:  
Building  
modeller

CompLib:  
Component  
modeller

- Thermal
- Lighting
- Solar
- Value
- Cost
- Evacuation
- Mechanical
- Electrical
- CFD

ModelIT - Untitled.mit - Plan : Model

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01

Model

- new\_space\_01
- new\_space\_01

Space Settings

Reference: new\_space\_01

Placement

Plane (m): 0.00

Height/depth (m): 4.00

Segments: 10

Create inner volume

Close Perimeter

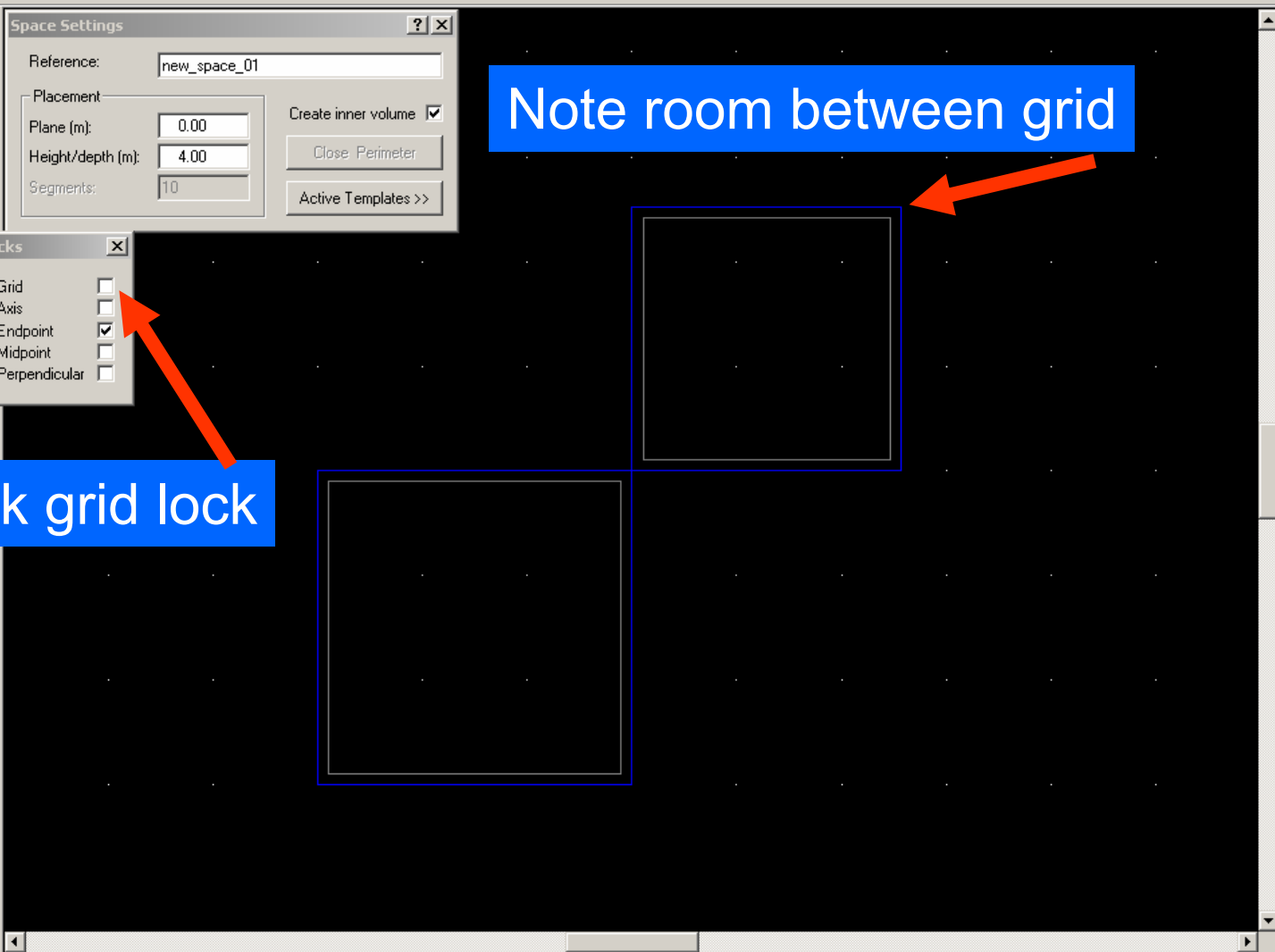
Active Templates >>

Locks

- Grid
- Axis
- Endpoint
- Midpoint
- Perpendicular

Note room between grid

Unclick grid lock



Plan Model -11.00, -1.11, 0.00

Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer



ModelBuilder



ModellT: Building modeller

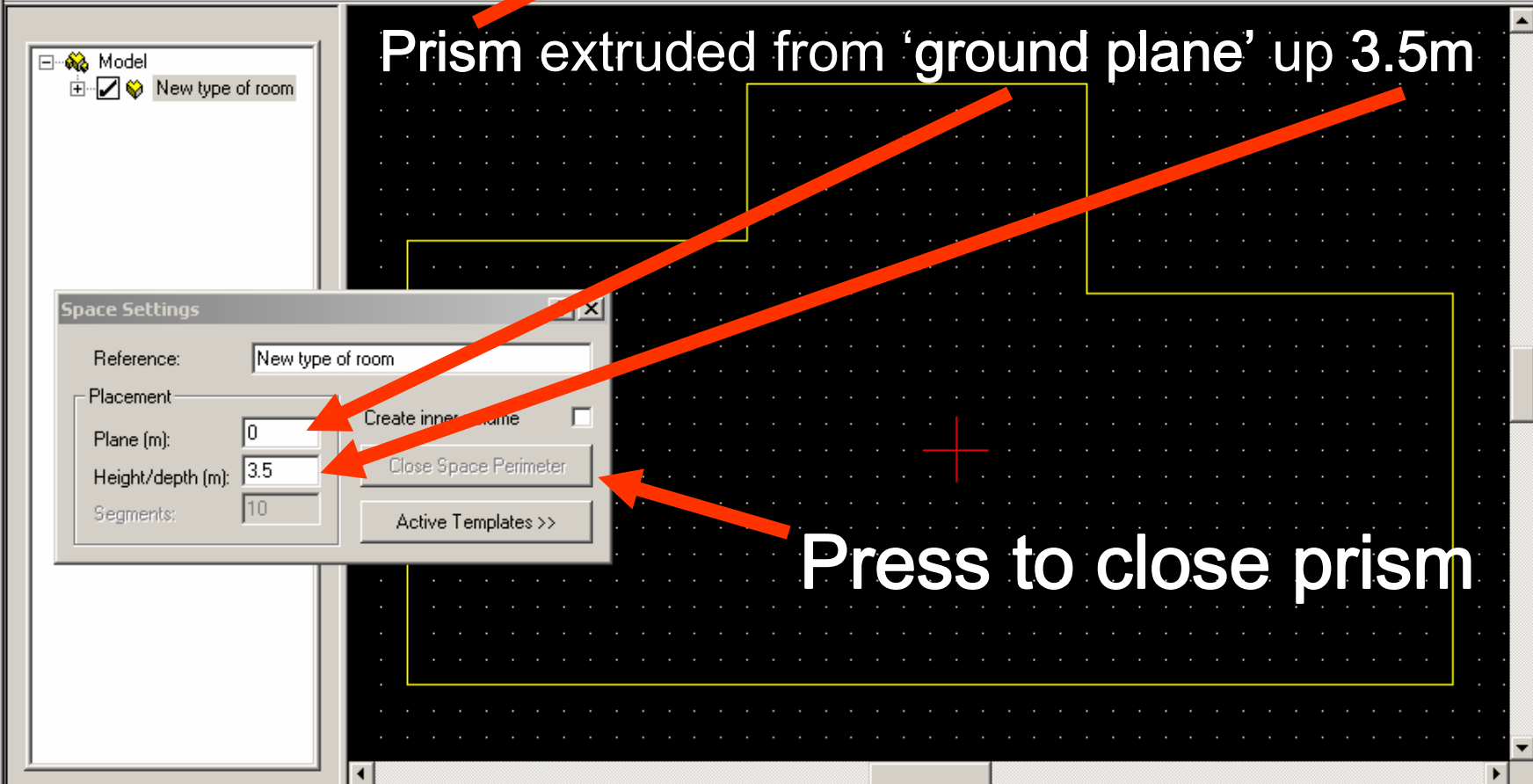


CompLib: Component modeller

- Thermal
- Lighting
- Solar
- Value
- Cost
- Evacuation
- Mechanical
- Electrical
- CFD

ModellT - Untitled - Plan : Model

File Edit View Settings Draw Utilities Help



Prism extruded from 'ground plane' up 3.5m

**Space Settings**

Reference:

Placement

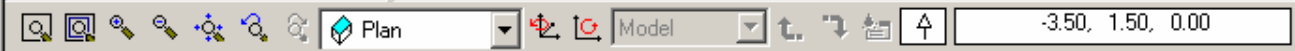
Plane (m):

Height/depth (m):

Segments:

Create inner frame

Press to close prism



	Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer
♥						



ModelBuilder


 ModelliT:  
Building  
modeller

 CompLib:  
Component  
modeller

ModelliT - Untitled - Plan : Model

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01



Model

New type of room

**Space Settings**

Reference:

Placement

Plane (m):

Height/depth (m):

Segments:

Create inner volume

Apache Construction	default
Radiance Surfaces	default
MacroFlo Openings	default
Room General	default
Room Thermal	default
Room Lighting	default

Click button to show active templates

All spaces 'New type of room' will have these templates associated with them

Thermal

Lighting

Solar

Value

Cost

Evacuation

Mechanical

Electrical

CFD

Plan Model -3.50, 4.00, 0.00

	Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer



ModelBuilder

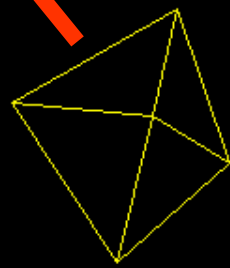
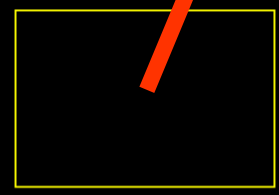


ModelIT - Untitled - Plan : Model

File Edit View Settings Draw Utilities Help



- Model
  - [-]  New type of room
  - [-]  New type of room
  - [-]  New type of room
  - [-]  New type of room
  - [-]  New type of room



**Space Settings**

Reference:

Placement

Plane (m):

Height/depth (m):

Segments:

Create inner volume

Press to close



Shapes available

- Prism
- Rectangle
- Pyramid
- Hemisphere
- Cylinder

- Thermal
- Lighting
- Solar
- Value
- Cost
- Evacuation
- Mechanical
- Electrical
- CFD

Plan

	Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer



elBuilder



Modell T:  
Building  
modeller



mpLib:  
Component  
modeller

thermal

lighting

Solar

Value

Cost

Occupation

mechanical

electrical

CFD

ModellIT - Untitled - Plan : Model

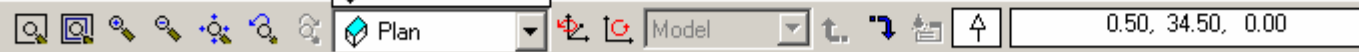
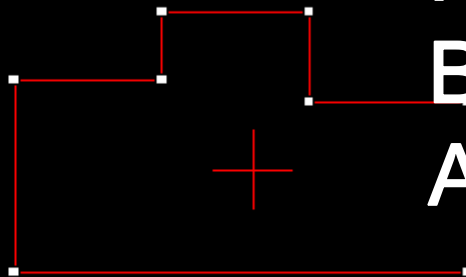
File Edit View Settings Draw Utilities Help



# Different views available

- Plan
- Right
- Left
- Front
- Back
- Axonometric

- Plan
- Right
- Left
- Front
- Back
- Axonometric



	Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer
	New type of room	NWTY0000	638.75	182.50		



ModelBuilder

ModellT: Building modeller

CompLib: Component modeller

- Thermal
- Lighting
- Solar
- Value
- Cost
- Evacuation
- Mechanical
- Electrical
- CFD

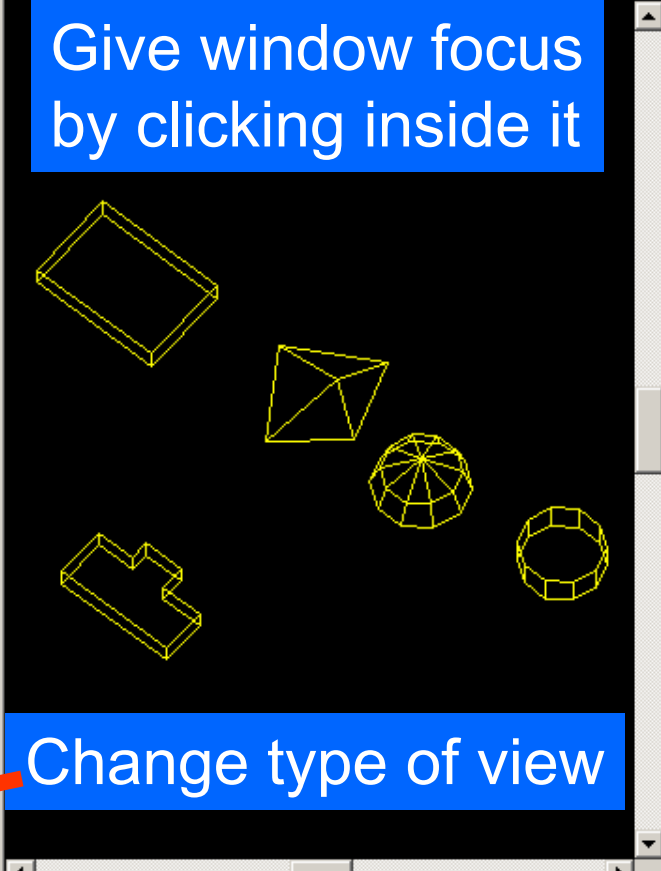
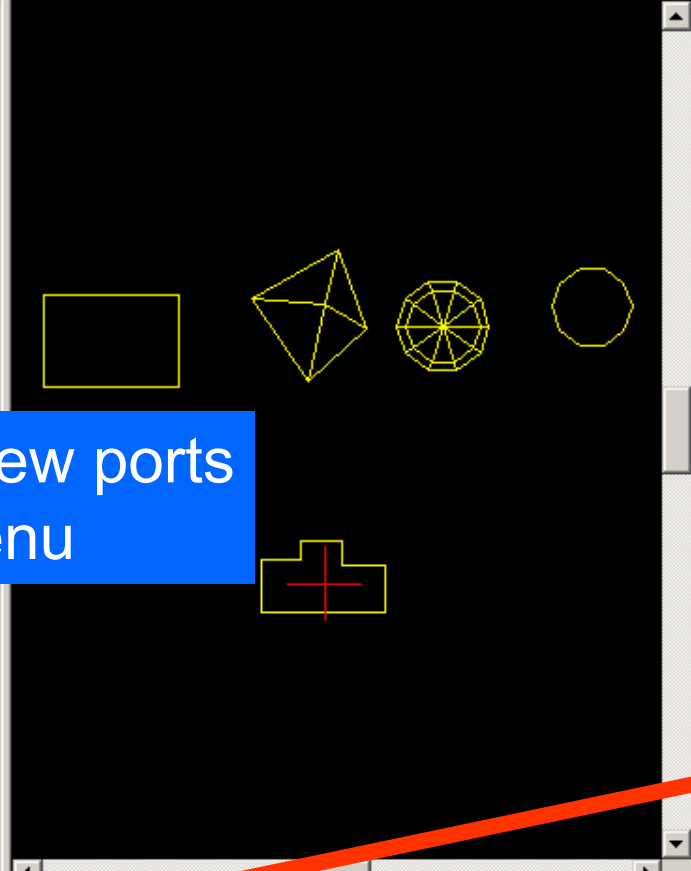
ModelIT - Untitled - Axonometric : Model

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01

Model

- New type of room
- New type of room
- New type of room
- New type of room
- New type of room



Select 2 view ports  
In view menu

Give window focus  
by clicking inside it

Change type of view

Axonometric Model -12.00, -44.00, 0.00

Select view rotation

Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer



ModelBuilder



ModellT: Building modeller



CompLib: Component modeller

- Thermal
- Lighting
- Solar
- Value
- Cost
- Evacuation
- Mechanical
- Electrical
- CFD

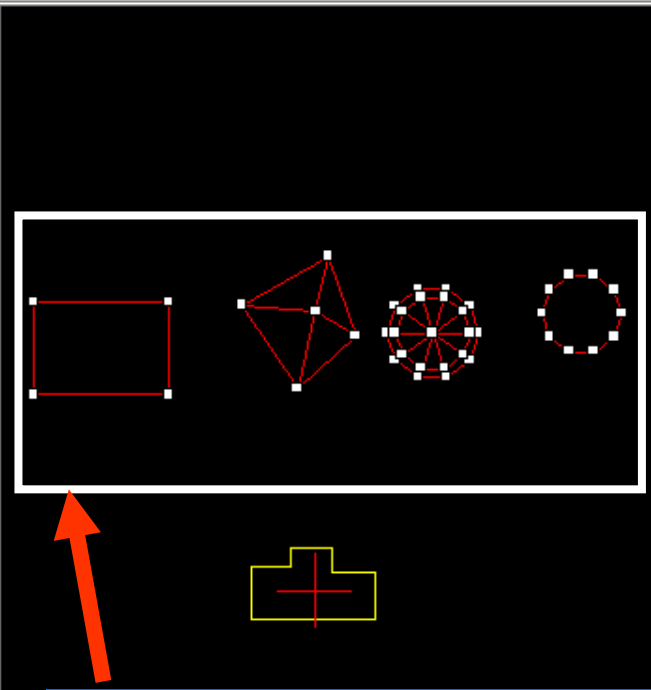
ModellT - Untitled - Plan : Model

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01

Model

- New type of room
- New type of room
- New type of room
- New type of room
- New type of room



**Click on DUSTBIN to DELETE**

**Use cursor to select items in box - right click and drag**

Plan Model -7.50, 3.00, 0.00

	Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer



ModelBuilder

ModellT:  
Building  
modellerCompLib:  
Component  
modeller

Thermal

Lighting

Solar

Value

Cost

Evacuation

Mechanical

Electrical

CFD

ModellT - Untitled - Plan : Model

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01

 Model  
 New type of room

Space is 'Selected' by clicking within it. Note change in colour and vertices identified by white squares

Plan Model -2.00, -6.00, 0.00

	Room Name	Room ID	Volume (m <sup>3</sup> )	Floor Area (m <sup>2</sup> )	Colour	Layer
	New type of room	NWTY0000	638.75	182.50	Colour 01	Layer 01



ModelBuilder

ModellT:  
Building  
modellerCompLib:  
Component  
modeller

Thermal

Lighting

Solar

Value

Cost

Evacuation

Mechanical

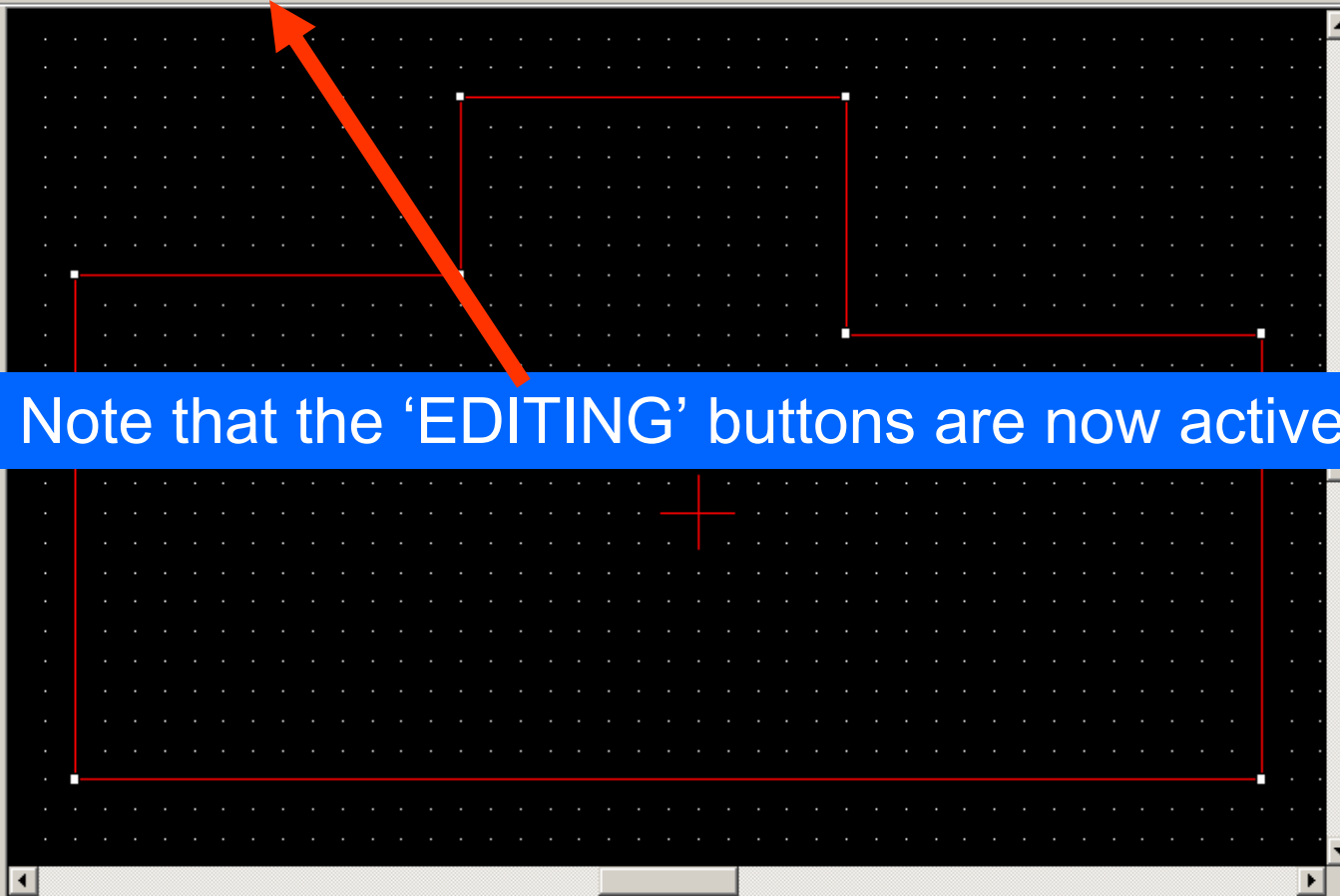
Electrical

CFD

ModellT - Untitled - Plan : Model

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01

Model  
+ [x] New type of room

Note that the 'EDITING' buttons are now active

Plan Model -2.00, -6.00, 0.00

	Room Name	Room ID	Volume (m <sup>3</sup> )	Floor Area (m <sup>2</sup> )	Colour	Layer
	New type of room	NWTY0000	638.75	182.50	Colour 01	Layer 01



ModelBuilder



ModelIT:  
Building  
modeller



CompLib:  
Component  
modeller

- Thermal
- Lighting
- Solar
- Value
- Cost
- Evacuation
- Mechanical
- Electrical
- CFD

ModelIT - Untitled - Plan : Model

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01 [Grid icons] [Lock icon] [Undo icon] [Redo icon] [Copy icon] [Paste icon] [Delete icon] [Refresh icon] [Move DFX icon] [Roof icon] [Height icon] [Glazing icon] [Colour icon] [Show inside icon]

Copy  
Move  
Scale  
Rotate  
Mirror  
Connect  
Colour  
Delete  
Refresh  
Move DFX  
Roof  
Height  
Glazing  
Show inside

Plan [View icons] [Model] [Coordinates: -20.00, 14.50, 0.00]

	Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer
	New type of room	NWTY0000	638.75	182.50	Colour 01	Layer 01



ModelBuilder

ModellT:  
Building  
modellerCompLib:  
Component  
modeller

Untitled

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01



- Model
- + [x] [y] new\_rooms
  - + [x] [y] new\_rooms
  - + [x] [y] new\_rooms

Space Settings

Reference: new\_rooms

Placement

Plane (m): 0

Height/depth (m): 4

Segments: 10

Create inner volume 

Close Space Perimeter

Active Templates &gt;&gt;

Draw some rectangular rooms

By default they are drawn in blue

Thermal

Lighting

Solar

Value

Cost

Evacuation

Mechanical

Electrical

CFD

Plan Model -9.58, -10.52, 0.00

	Room Name	Room ID	Volume (m <sup>3</sup> )	Floor Area (m <sup>2</sup> )	Colour	Layer



ModelBuilder



ModellT: Building modeller



CompLib: Component modeller

- Thermal
- Lighting
- Solar
- Value
- Cost
- Evacuation
- Mechanical
- Electrical
- CFD

Untitled

Colour 01 Layer 01

Model

- new\_rooms
- new\_rooms
- new\_rooms

To change colour of layer

Colour Table

Colour: 1

Double click on colour

Click to choose New colour

Click on OK

Color

Basic colors:

Custom colors:

Define Custom Colors >>

OK Cancel

Plan Model -14.82, 11.00, 0.00

Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer



ModelBuilder



ModellT: Building modeller



CompLib: Component modeller

- Thermal
- Lighting
- Solar
- Value
- Cost
- Evacuation
- Mechanical
- Electrical
- CFD

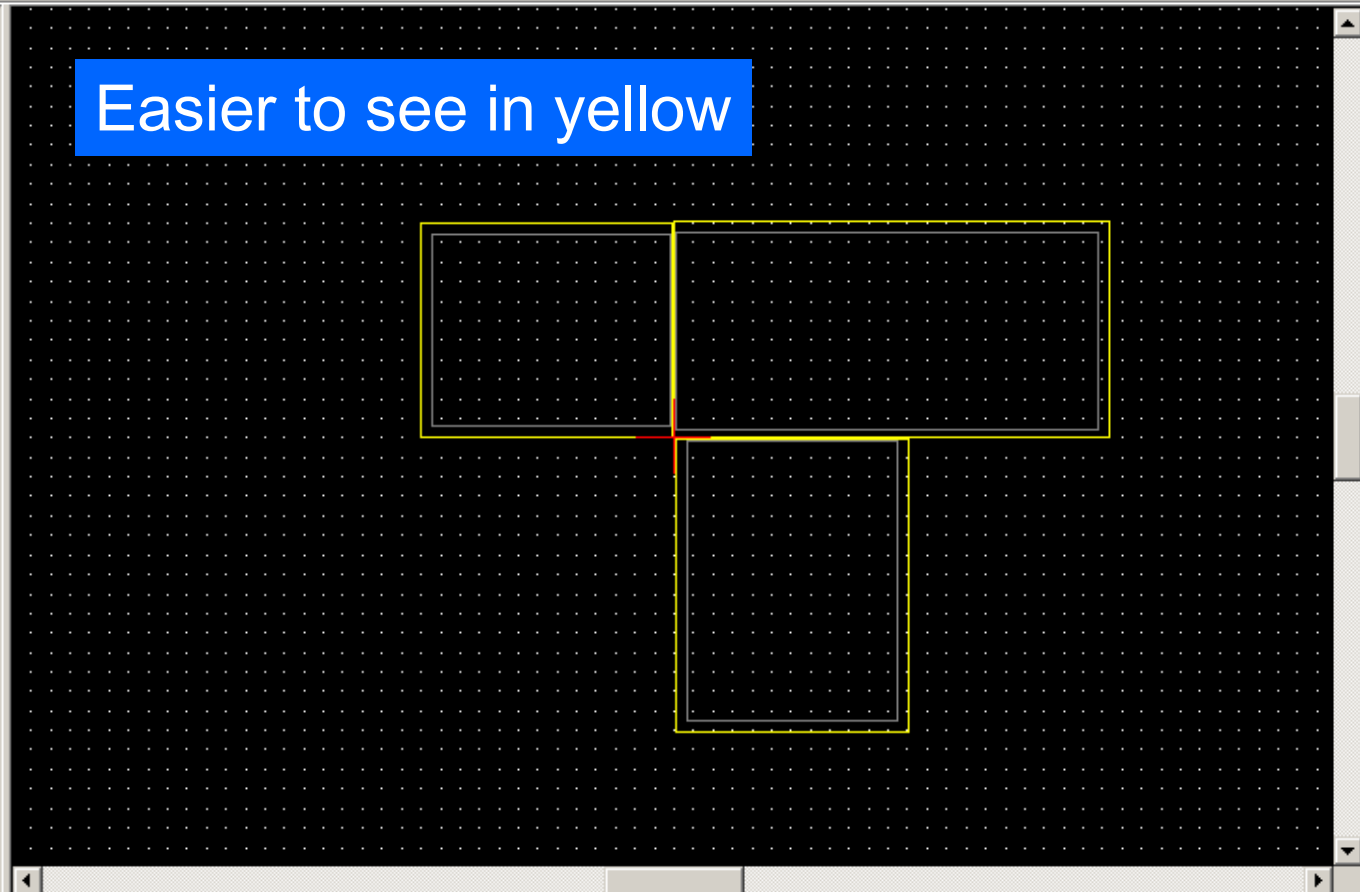
Untitled

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01

Model

- new\_rooms
- new\_rooms
- new\_rooms



Plan Model -14.25, 0.99, 0.00

	Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer



ModelBuilder

ModellT:  
Building  
modellerCompLib:  
Component  
modeller

ModellT - Untitled - Plan : Model

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01



Model

- new\_rooms\_01
- new\_rooms
- new\_rooms

Select one of the 'new\_rooms' by clicking within room

Double click to edit, then add \_01 to room name

Thermal

Lighting

Solar

Value

Cost

Evacuation

Mechanical

Electrical

CFD

Plan Model -6.73, -2.05, 0.00

	Room Name	Room ID	Volume (m <sup>3</sup> )	Floor Area (m <sup>2</sup> )	Colour	Layer
	new_rooms_01	NWRM0003	108.38	30.19	Colour 01	Layer 01



ModelBuilder

ModellT:  
Building  
modellerCompLib:  
Component  
modeller

Thermal

Lighting

Solar

Value

Cost

Evacuation

Mechanical

Electrical

CFD

ModellT - Untitled - Plan : Model

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01



Model

- new\_rooms\_01
- new\_rooms\_02
- new\_rooms\_03

Rooms with  
new name

Select question

Click on vertex

Co-ordinates shown

Plan Model -6.50, 5.52, 0.00

	Room Name	Room ID	Volume (m <sup>3</sup> )	Floor Area (m <sup>2</sup> )	Colour	Layer



ModelBuilder



ModellT: Building modeller



CompLib: Component modeller

- Thermal
- Lighting
- Solar
- Value
- Cost
- Evacuation
- Mechanical
- Electrical
- CFD

ModelIT - Untitled - Plan : Model

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01

5.48 m

Model

- new\_rooms\_01
- new\_rooms\_02
- new\_rooms\_03

Click on length

Select two vertices by clicking

Length shown in edit box

I realise I had not clicked the 'grid' lock, so redraw

Plan Model -15.16, -7.78, 0.00

	Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer
♥						



ModelBuilder



ModellT:  
Building  
modeller



CompLib:  
Component  
modeller

ModellT - Untitled - Plan : Model

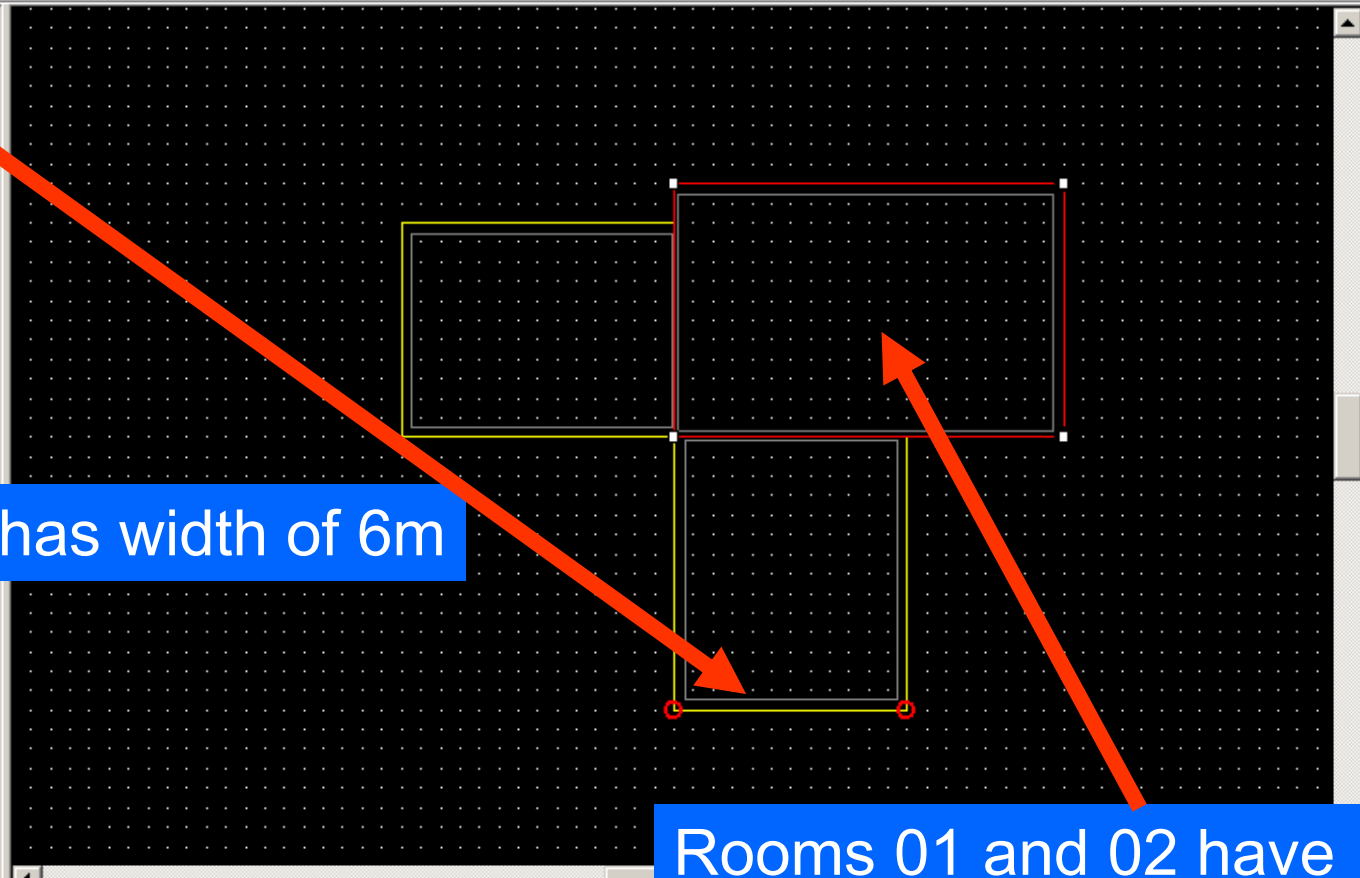
File Edit View Settings Draw Utilities Help

Colour 01 Layer 01 [Grid icons]

6.00 m

[Drawing tools: Move, Rotate, Scale, etc.]

Model tree:  
Model  
+ new\_rooms\_01  
+ new\_rooms\_02  
+ new\_rooms\_03



Room 03 has width of 6m

Rooms 01 and 02 have different widths  
Focus on room 02 so as to edit it

- Thermal
- Lighting
- Solar
- Value
- Cost
- Evacuation
- Mechanical
- Electrical
- CFD

Plan [View icons]

	Room Name	Room ID	Volume (m <sup>3</sup> )
	new_rooms_02	NWRM0004	210.06





ModelBuilder

ModellT:  
Building  
modellerCompLib:  
Component  
modeller

Thermal

Lighting

Solar

Value

Cost

Evacuation

Mechanical

Electrical

CFD

ModellT - Untitled - Axonometric : Space : Edit mode

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01

6.00 m

- Model
  - new\_rooms\_01
  - new\_rooms\_02
  - SURFACE: Floor
  - SURFACE: Ceiling
  - SURFACE: Wall
  - SURFACE: Wall
  - SURFACE: Wall
  - SURFACE: Wall
  - new\_rooms\_03

Note that there are 3 views available

Choose the EDIT view

Axonometric Edit 4.49, -3.02, -3.00

Surface  
Edit  
Component

Surface Area (m<sup>2</sup>)

Surface Orientation (°)

Surface Tilt (°)



ModelBuilder

ModelIT:  
Building  
modellerCompLib:  
Component  
modeller

ModelIT - Untitled - Axonometric : Space : Edit mode

File Edit View Settings Draw Utilities Help

Colour 01

Layer 01

6.00 m

Edit Space

Divide Space

Separate Composite Space

Edit Vertices

Cutting plane coordinates:

	X	Y	Z
Coordinate 1	5.00000	-1.00000	-1.00000
Coordinate 2	5.00000	-1.00000	5.00000
Coordinate 3	5.00000	7.50000	5.00000

Generate Plane

Enter three coordinates to define the cutting plane and click on the Generate Plane button to create the cutting plane. Click on the Divide Space button to create the composite space.

Divide with partitions

Divide Space

There are 3 edit commands

Divide space

Surface Area (m<sup>2</sup>)

Surface Orientation (°)

Surface Tilt (°)



ModelBuilder



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- Mechanical
- Electrical
- CFD

ModelIT - Untitled - Axonometric : Space : Edit mode

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01

6.00 m

Edit Space

Divide Space Separate Composite Space Edit Vertices

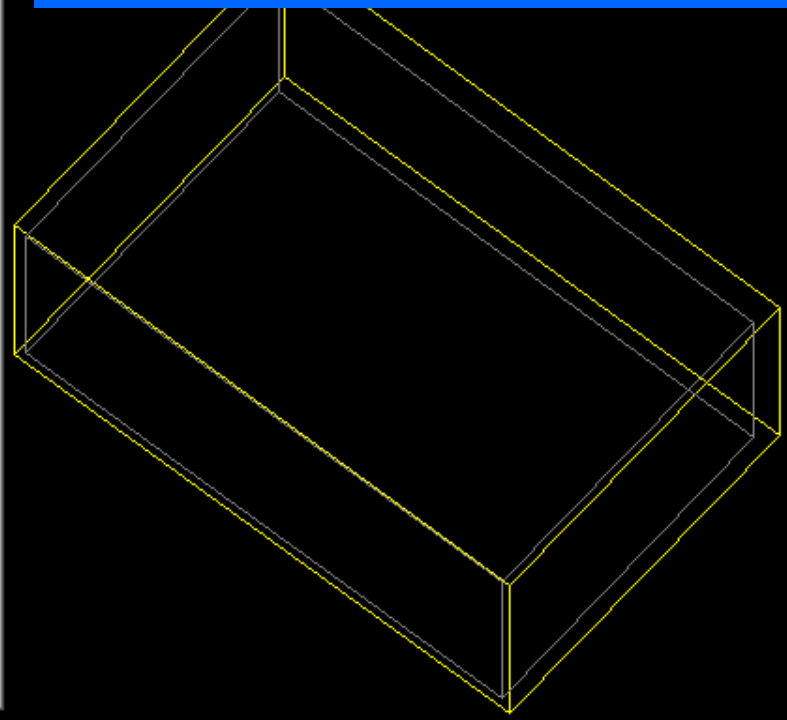


Select spaces to separate from the current composite space using the mouse or list box.

Click on the Separate button to separate the selected spaces from the current composite space.

Separate

Separate composite spaces



Axonometric Edit 1.11, -1.33, -1.00

	Surface Area (m <sup>2</sup> )	Surface Orientation (°)	Surface Tilt (°)
	.	.	.



ModelBuilder



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ModelIT - Untitled - Axonometric : Space : Edit mode

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01

6.00 m

Edit Space

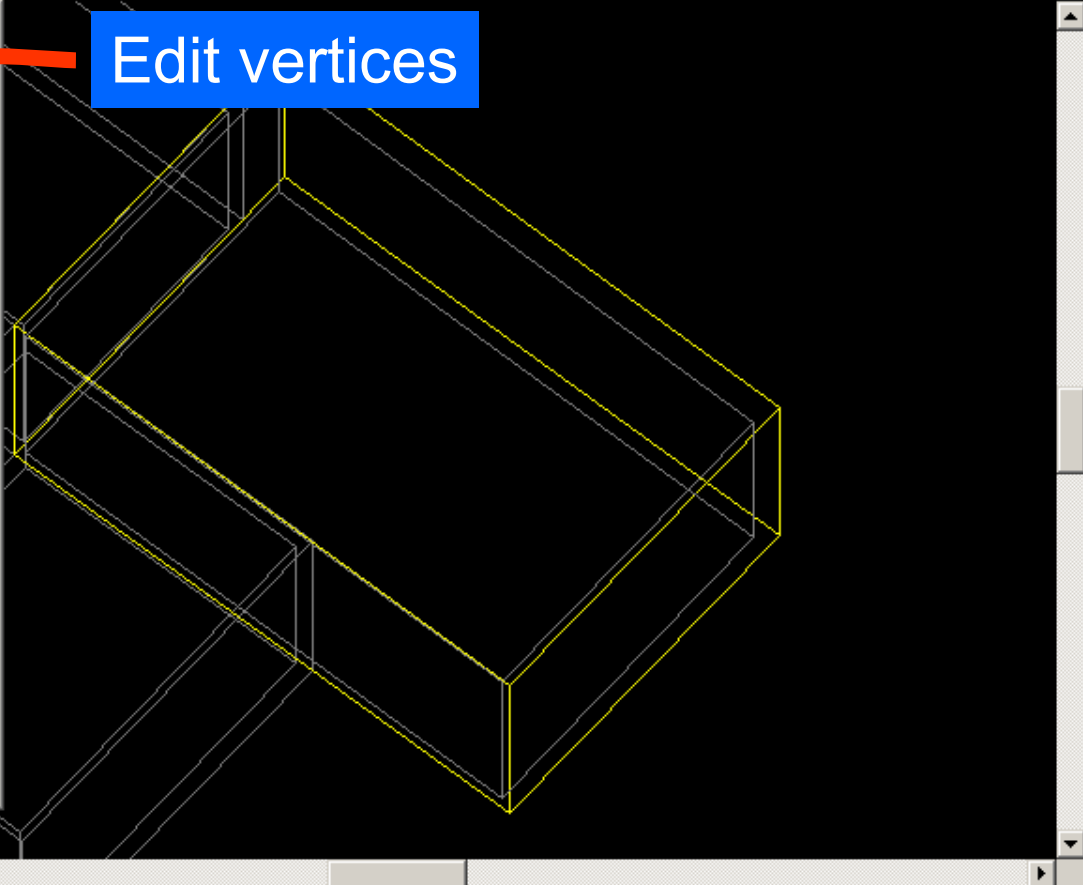
Divide Space Separate Composite Space **Edit Vertices**

X	Y	Z
0.00000	0.00000	0.00000
0.00000	6.50000	0.00000
10.00000	6.50000	0.00000
10.00000	0.00000	0.00000
0.00000	0.00000	4.00000
0.00000	6.50000	4.00000
10.00000	6.50000	4.00000
10.00000	0.00000	4.00000

Vertex shift:

Move Vertices

**Edit vertices**



Axonometric Edit 4.80, -1.06, -2.25

	Surface Area (m²)	Surface Orientation (°)	Surface Tilt (°)
	.	.	.



ModelBuilder



ModelIT: Building modeller



CompLib: Component modeller

- Thermal
- Lighting
- Solar
- Value
- Cost
- Evacuation
- Mechanical
- Electrical
- CFD

ModelIT - Untitled - Axonometric : Space : Edit mode

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01

6.00 m

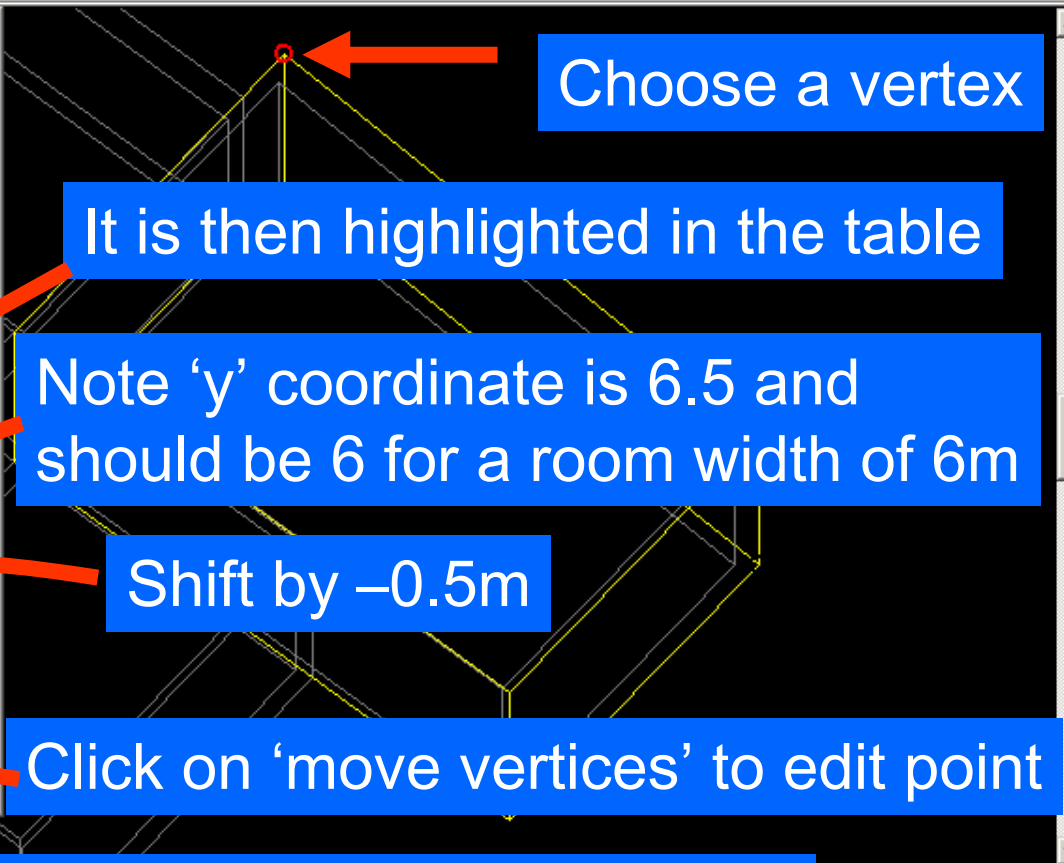
Edit Space

Divide Space Separate Composite Space Edit Vertices

X	Y	Z
0.00000	0.00000	0.00000
0.00000	6.50000	0.00000
10.00000	6.00000	0.00000
10.00000	0.00000	0.00000
0.00000	0.00000	4.00000
0.00000	6.50000	4.00000
10.00000	6.00000	4.00000
10.00000	0.00000	4.00000

Vertex shift:

Move Vertices



Choose a vertex

It is then highlighted in the table

Note 'y' coordinate is 6.5 and should be 6 for a room width of 6m

Shift by -0.5m

Click on 'move vertices' to edit point

Continue for the 4 vertices, using same shift value

	Surface Area (m <sup>2</sup> )	Surface Orientation (°)	Surface Tilt (°)



ModelBuilder

ModellT:  
Building  
modellerCompLib:  
Component  
modeller

Thermal

Lighting

Solar

Value

Cost

Evacuation

Mechanical

Electrical

CFD

ModellT - Untitled - Axonometric : Space : Edit mode

File Edit View Settings Draw Utilities Help

Colour 01

6.00 m

Move focus to room 01 , this is too narrow

Edit Space

Divide Space Separate Composite Space Edit Vertices

X	Y	Z
-7.00000	0.00000	0.00000
-7.00000	5.50000	0.00000
0.00000	5.50000	0.00000
0.00000	0.00000	0.00000
-7.00000	0.00000	4.00000
-7.00000	5.50000	4.00000
0.00000	5.50000	4.00000
0.00000	0.00000	4.00000

Vertex shift:

Move Vertices

Identify vertex to be shifted

Shift 'y' by +0.5 this time

And also for other vertices

Axonometric Edit -2.96, -1.92, 0.25

	Surface Area (m <sup>2</sup> )	Surface Orientation (°)	Surface Tilt (°)



ModelBuilder



ModelIT: Building modeller



CompLib: Component modeller

- Thermal
- Lighting
- Solar
- Value
- Cost
- Evacuation
- Mechanical
- Electrical
- CFD

ModelIT - Untitled - Axonometric : Space : Edit mode

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01

6.00 m

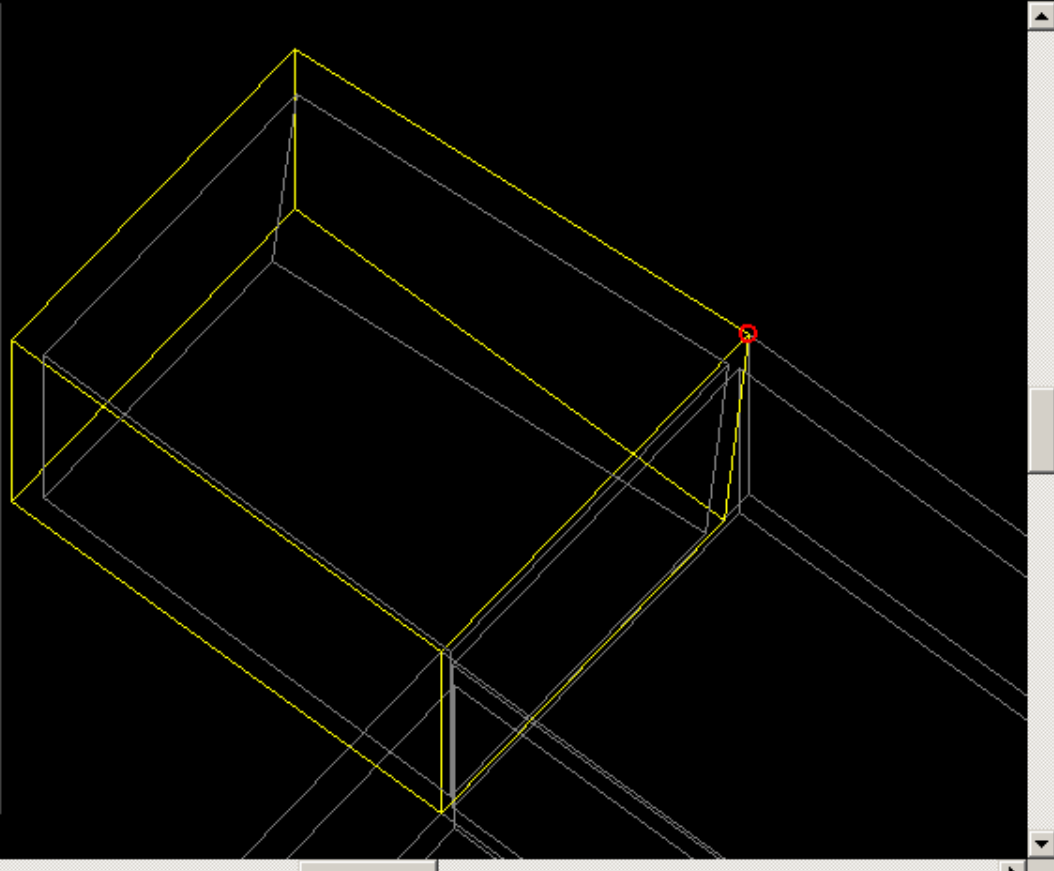
Edit Space

Divide Space Separate Composite Space Edit Vertices

X	Y	Z
-7.00000	0.00000	0.00000
-7.00000	5.50000	0.00000
0.00000	5.50000	0.00000
0.00000	0.00000	0.00000
-7.00000	0.00000	4.00000
-7.00000	5.50000	4.00000
0.00000	6.00000	4.00000
0.00000	0.00000	4.00000

Vertex shift:

Move Vertices



Axonometric

	Surface Area (m²)	Surface Orientation (°)	Surface Tilt (°)
	.	.	.



ModelBuilder



ModellT: Building modeller



CompLib: Component modeller

- Thermal
- Lighting
- Solar
- Value
- Cost
- Evacuation
- Mechanical
- Electrical
- CFD

ModellT - Untitled - Plan : Model

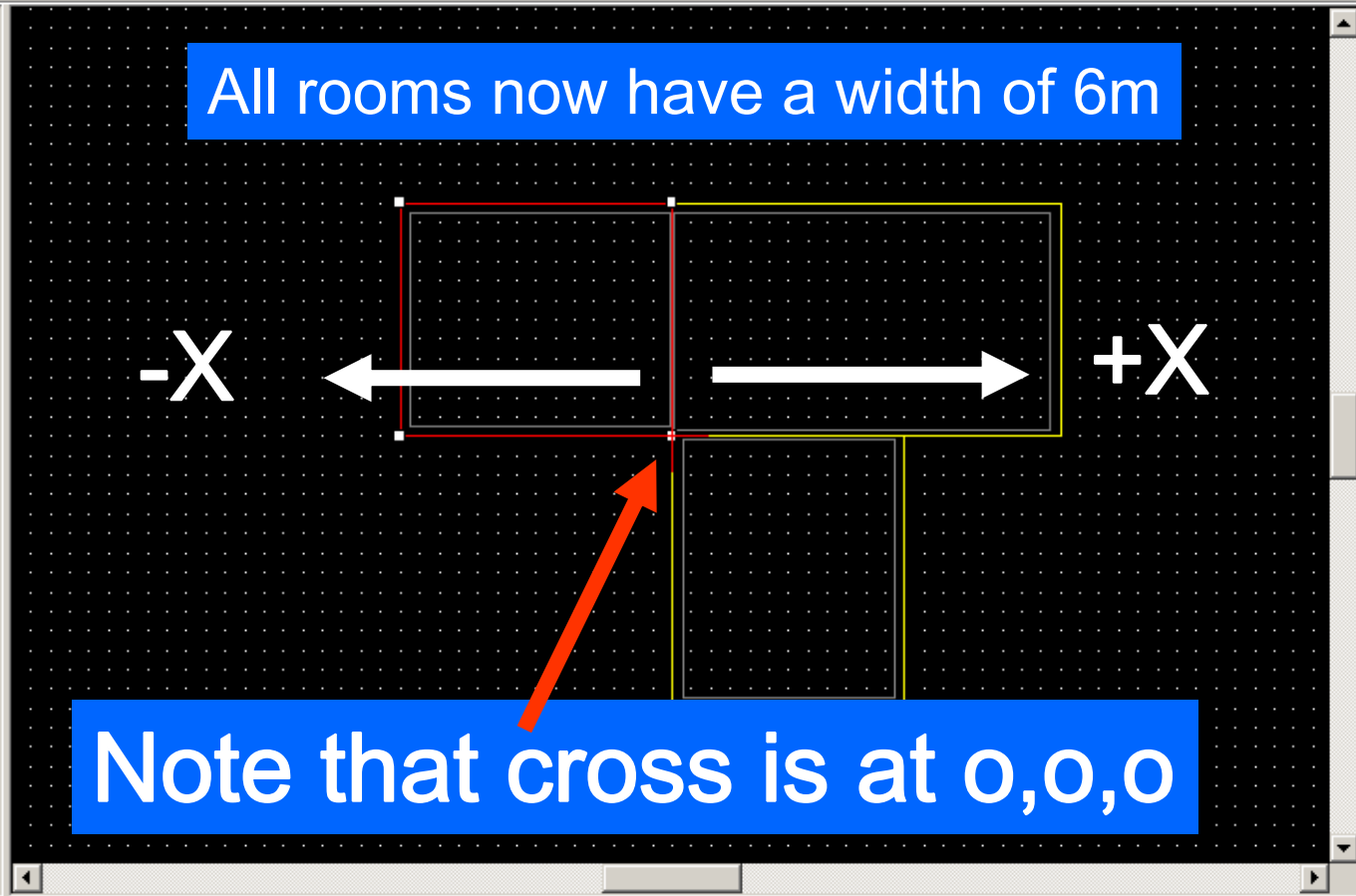
File Edit View Settings Draw Utilities Help

Colour 01 Layer 01

6.00 m

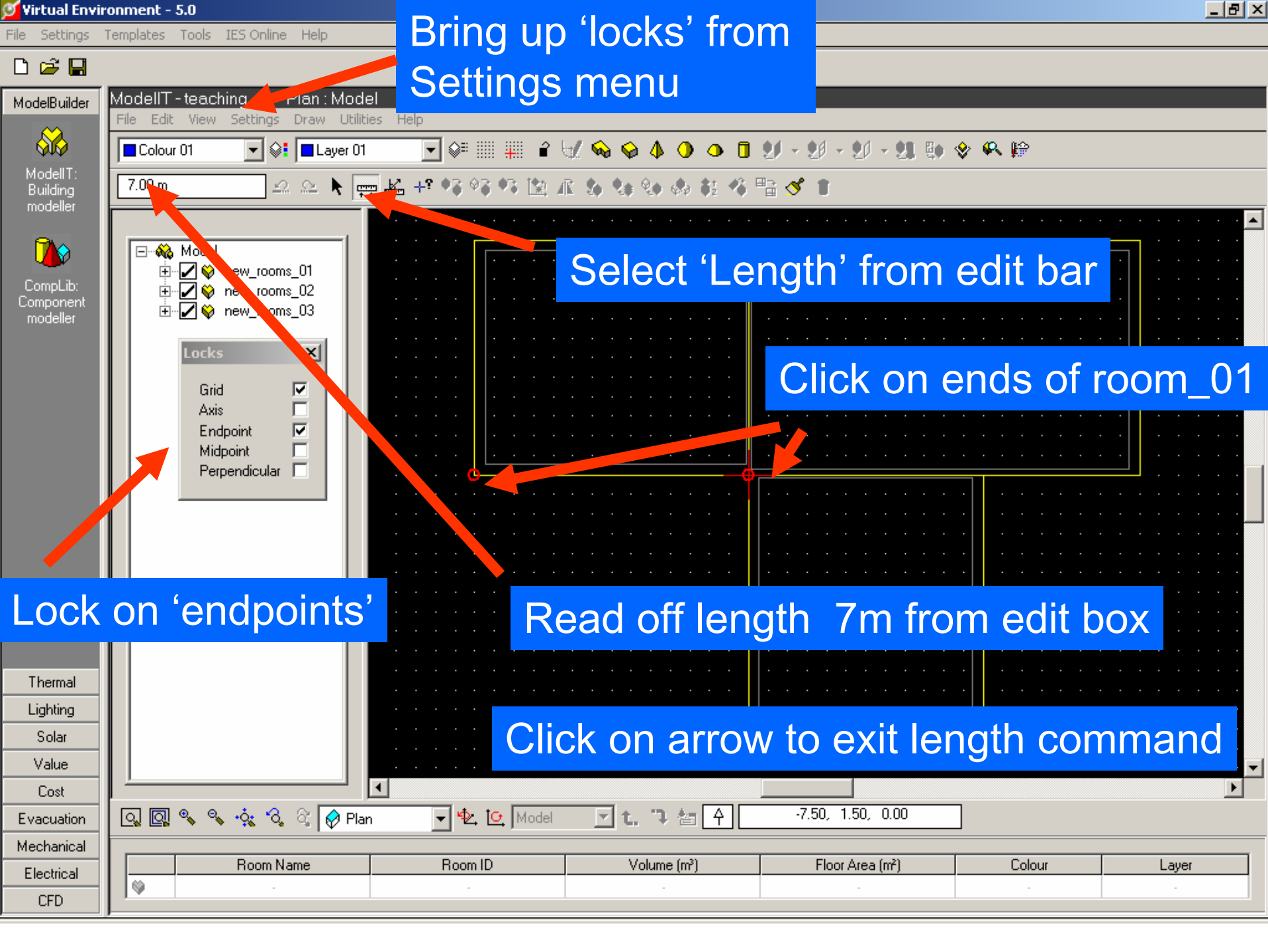
Model

- new\_rooms\_01
  - SURFACE: Floor
  - SURFACE: Ceiling
  - SURFACE: Wall
  - SURFACE: Wall
  - SURFACE: Wall
  - SURFACE: Wall
- new\_rooms\_02
- new\_rooms\_03



Plan Model -11.50, -8.50, 0.00

	Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer
	new_rooms_01	NWRM0003	130.36	36.31	Colour 01	Layer 01



Bring up 'locks' from Settings menu

Select 'Length' from edit bar

Click on ends of room\_01

Lock on 'endpoints'

Read off length 7m from edit box

Click on arrow to exit length command

	Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer
♥						

Change view to 'LEFT'

Draw roof over room\_01 using 'prism'

ModelBuilder

ModellT: Building modeller

CompLib: Component modeller

ModellT - teaching\_01 - Left: Model

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01

7.00 m

Model

- new\_rooms\_01
- new\_rooms\_02
- new\_rooms\_03

Locks

- Grid
- Axis
- Endpoint
- Midpoint
- Perpendicular

Space Settings

Reference: roof

Plane (m): 0

Height/depth (m): -7

Segments: 10

Create inner volume

Close Space Perimeter

Active Templates >>

For the first two points use 'endpoint' lock

Prism base is at 0

Draw in the  $-x$  direction, -7

Left

0.00, 1.50, 5.39

Room Name	Room ID	Volume (m <sup>3</sup> )	Floor Area (m <sup>2</sup> )	Colour	Layer



ModelBuilder



ModellT: Building modeller



CompLib: Component modeller

- Thermal
- Lighting
- Solar
- Value
- Cost
- Evacuation
- Mechanical
- Electrical
- CFD

ModellT - teaching\_01 - Left : Model

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01

7.00 m

Model

- new\_rooms\_01
- new\_rooms\_02
- new\_rooms\_03

Locks

- Grid
- Axis
- Endpoint
- Midpoint
- Perpendicular

Space Settings

Reference: roof

Placement

Plane (m): 0

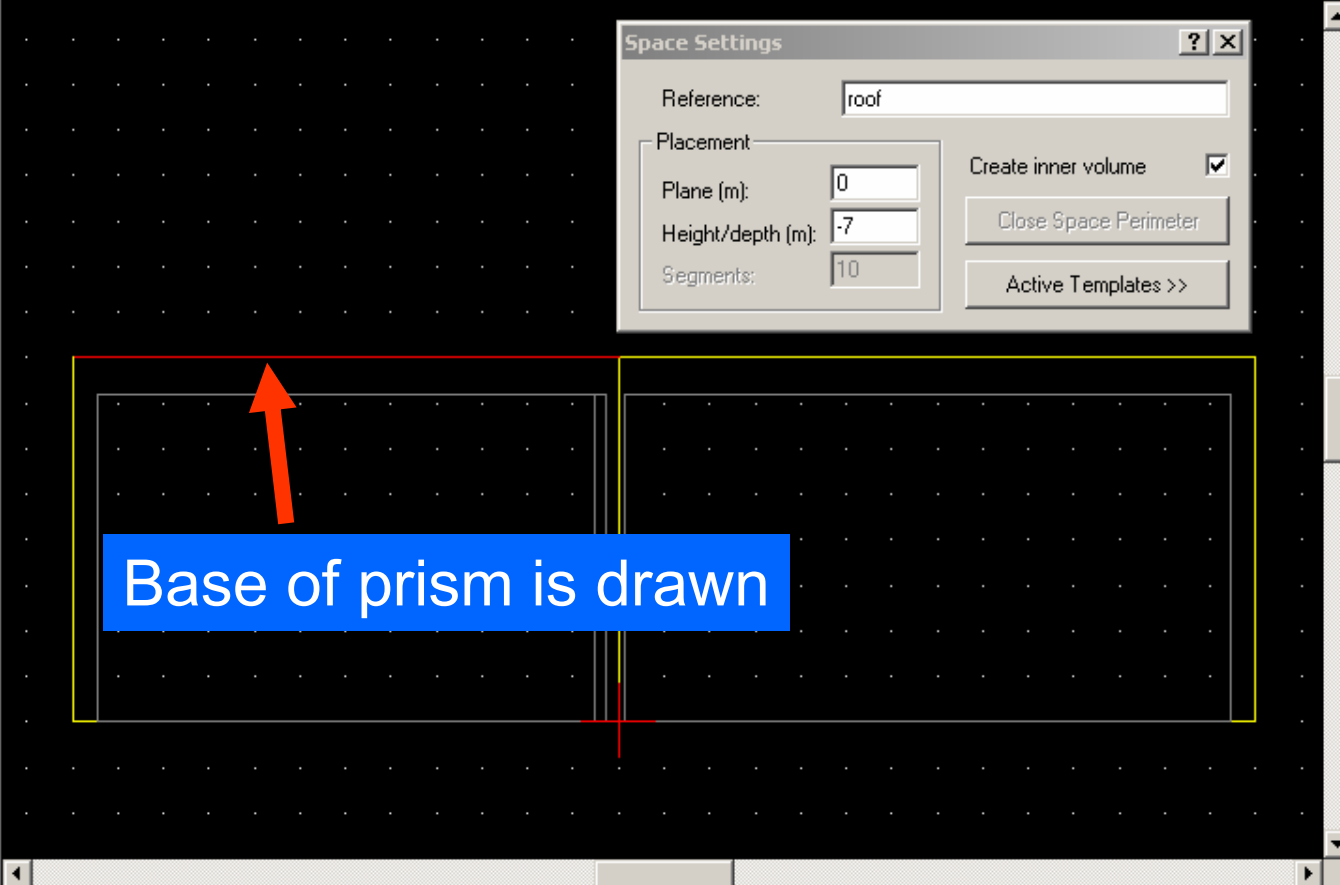
Height/depth (m): -7

Segments: 10

Create inner volume

Close Space Perimeter

Active Templates >>



Base of prism is drawn

Left Model 0.00, 6.00, 4.00

	Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer
♥						



ModelBuilder



ModellT: Building modeller



CompLib: Component modeller

- Thermal
- Lighting
- Solar
- Value
- Cost
- Evacuation
- Mechanical
- Electrical
- CFD

ModellT - teaching\_01 - Left : Model

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01

7.00 m

Model

- new\_rooms\_01
- new\_rooms\_02
- new\_rooms\_03

**Locks**

- Grid
- Axis
- Endpoint
- Midpoint
- Perpendicular



For the ridge, release the locks

**Space Settings**

Reference: roof

Placement

Plane (m): 0

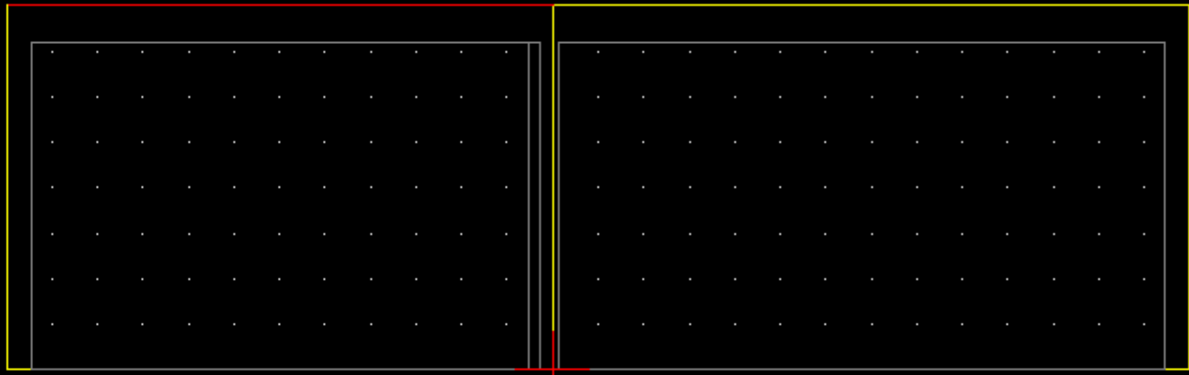
Height/depth (m): -7

Segments: 10

Create inner volume

Close Space Perimeter

Active Templates >>



Left Model 0.00, 6.00, 4.00

	Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer
♥						



ModelBuilder



ModellT: Building modeller



CompLib: Component modeller

- Thermal
- Lighting
- Solar
- Value
- Cost
- Evacuation
- Mechanical
- Electrical
- CFD

ModellT - teaching\_01 - Left : Model

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01

7.00 m

Model

- new\_rooms\_01
- new\_rooms\_02
- new\_rooms\_03

Locks

- Grid
- Axis
- Endpoint
- Midpoint
- Perpendicular

Space Settings

Reference: roof

Placement

Plane (m): 0

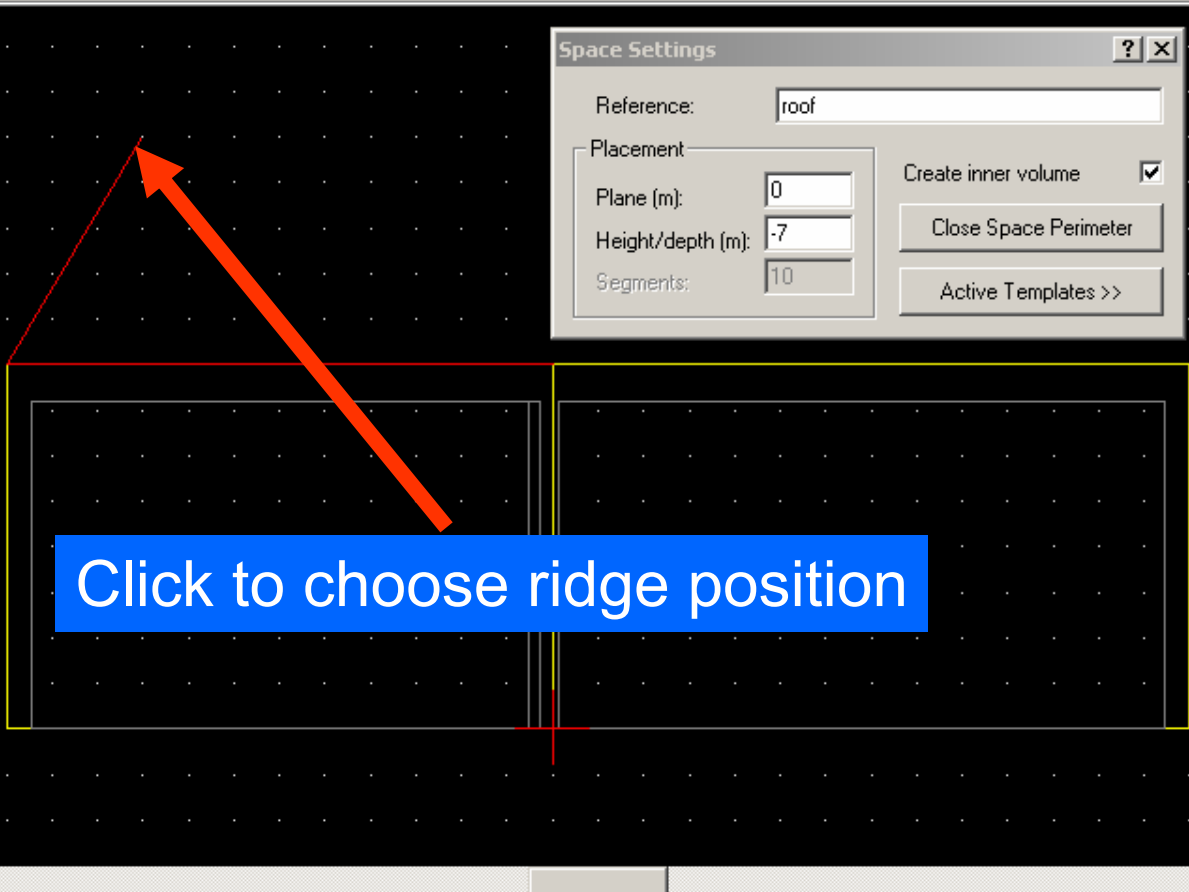
Height/depth (m): -7

Segments: 10

Create inner volume

Close Space Perimeter

Active Templates >>



Click to choose ridge position

Left Model 0.00, 4.51, 6.51

	Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer
♥						



ModelBuilder

ModellT: Building modeller

CompLib: Component modeller

ModellT - teaching\_01 - Left : Model

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01

7.00 m

Model

- new\_rooms\_01
- new\_rooms\_02
- new\_rooms\_03
- roof

Locks

- Grid
- Axis
- Endpoint
- Midpoint
- Perpendicular

**Space Settings**

Reference: roof

Placement

Plane (m): 0

Height/depth (m): -7

Segments: 10

Create inner volume

Close Space Perimeter

Apply Templates >>

Close prism by clicking on 'close'

- Thermal
- Lighting
- Solar
- Value
- Cost
- Evacuation
- Mechanical
- Electrical
- CFD

Left Model 0.00, 0.03, 5.10

Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer



ModelBuilder



ModellT: Building modeller



CompLib: Component modeller

- Thermal
- Lighting
- Solar
- Value
- Cost
- Evacuation
- Mechanical
- Electrical
- CFD

ModellT - teaching\_01 - Left : Model

File Edit View Settings Draw Utilities Help

Colour 01 Layer 01

7.00 m



Model

- + [x] [y] new\_rooms\_01
- + [x] [y] new\_rooms\_02
- + [x] [y] new\_rooms\_03
- + [x] [y] roof

Locks

- Grid
- Axis
- Endpoint
- Midpoint
- Perpendicular

Model Viewer

Use 'Viewer to check construction'

Left Model 0.00, -3.86, 7.87

	Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer
♥						



ModelBuilder

ModellT:  
Building  
modellerCompLib:  
Component  
modeller

Thermal

Lighting

Solar

Value

Cost

Evacuation

Mechanical

Electrical

CFD

ModellT - teaching\_01 - Plan : Model

File Edit View Settings Draw Utilities Help

Colour 01

Layer 1

10.00 m

- Model
  - new\_rooms\_01
  - new\_rooms\_02
  - new\_rooms\_03
  - roof

**Change view to 'Plan'**

Locks

- Grid
- Axis
- Endpoint
- Midpoint
- Perpendicular

**Length of room\_02 is +10m**

Room Name

Room ID

Volume (m<sup>3</sup>)Floor Area (m<sup>2</sup>)

Colour

Layer

7.50, 4.50, 0.00

Change view to 'LEFT'

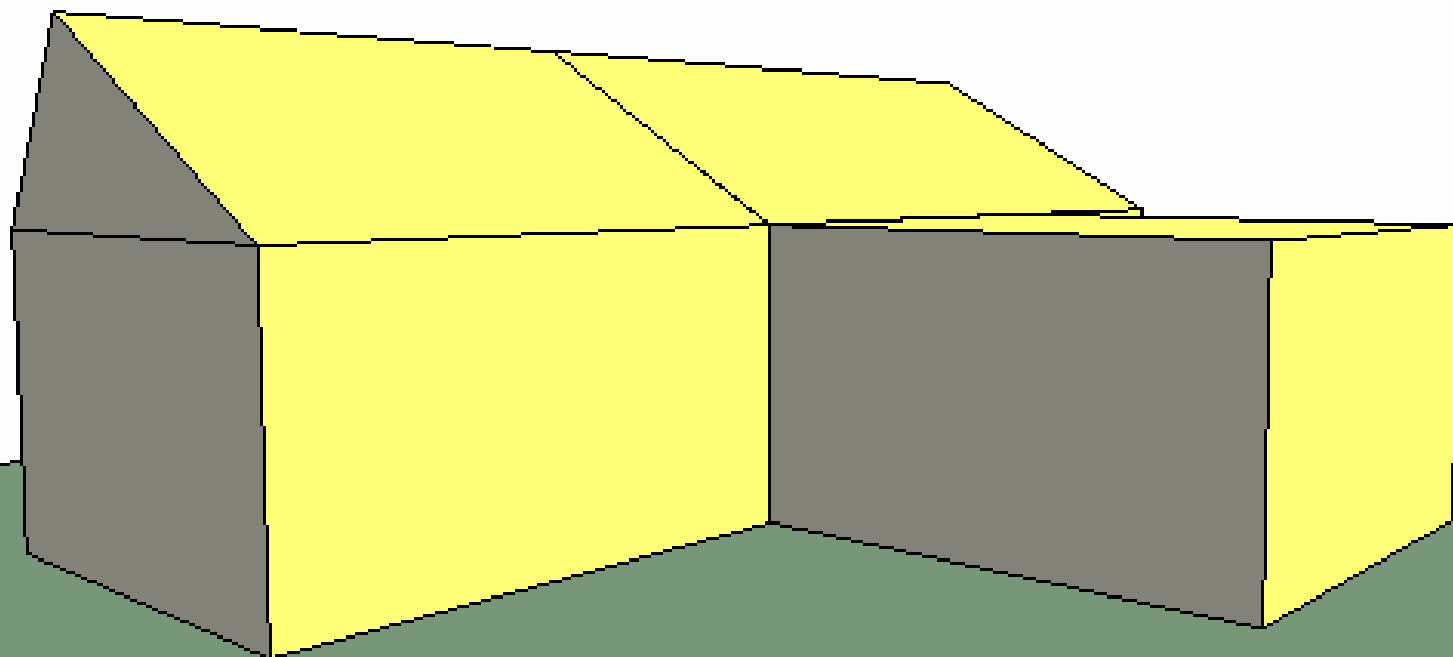
From 0, roof extend into screen, depth is +10m

The screenshot shows the Virtual Environment software interface. On the left, there is a sidebar with 'ModelBuilder' and 'ModellIT: teaching' tabs. Below these are icons for 'ModellIT: Building modeller' and 'Complib: Component modeller'. A 'Locks' dialog box is open, showing options for Grid, Axis, Endpoint, Midpoint, and Perpendicular. The main workspace displays a 3D model of a house with a roof, overlaid on a grid. A 'Space Settings' dialog box is open, showing 'Reference: roof', 'Plane (m): 0', 'Height/depth (m): 10', and 'Segments: 10'. A red arrow points from the '10' value in the 'Space Settings' dialog to the 'Left' view button in the bottom toolbar. The bottom toolbar also shows a 'Model' dropdown and a coordinate display showing '0.00, 1.87, 2.09'. At the bottom, there is a table with columns for Room Name, Room ID, Volume (m³), Floor Area (m²), Colour, and Layer.

Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer



Check 'viewer' to see if roof fits correctly



# Change view to 'PLAN'



ModelBuilder



ModellT:  
Building  
modeller



CompLib:  
Component  
modeller

ModellT - teachi

File Edit View Settings View Styles Help

Colour 01

Layer 01

7.00 m

- Model
- new\_rooms\_01
  - new\_rooms\_02
  - new\_rooms\_03
  - roof
  - roof

Locks

- Grid
- Axis
- Endpoint
- Midpoint
- Perpendicular

Thermal

Lighting

Solar

Value

Cost

Evacuation

Mechanical

Electrical

CFD

## Length of room\_03 is -7m from 0

$Y=0$

+Y

-Y

Plan

Model

7.50, -5.50, 0.00

Room Name

Room ID

Volume (m³)

Floor Area (m²)

Colour

Layer

Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer

Change to a 'Front' view

Prism base is at 0

Prism is -7m from base which is a  $y=0$

**Space Settings**

Reference: roof

Placement:  Show inner volume

Plane (m): 0

Height/depth (m): -7

Segments: 10

Close Space Perimeter

Active Templates >>

**Locks**

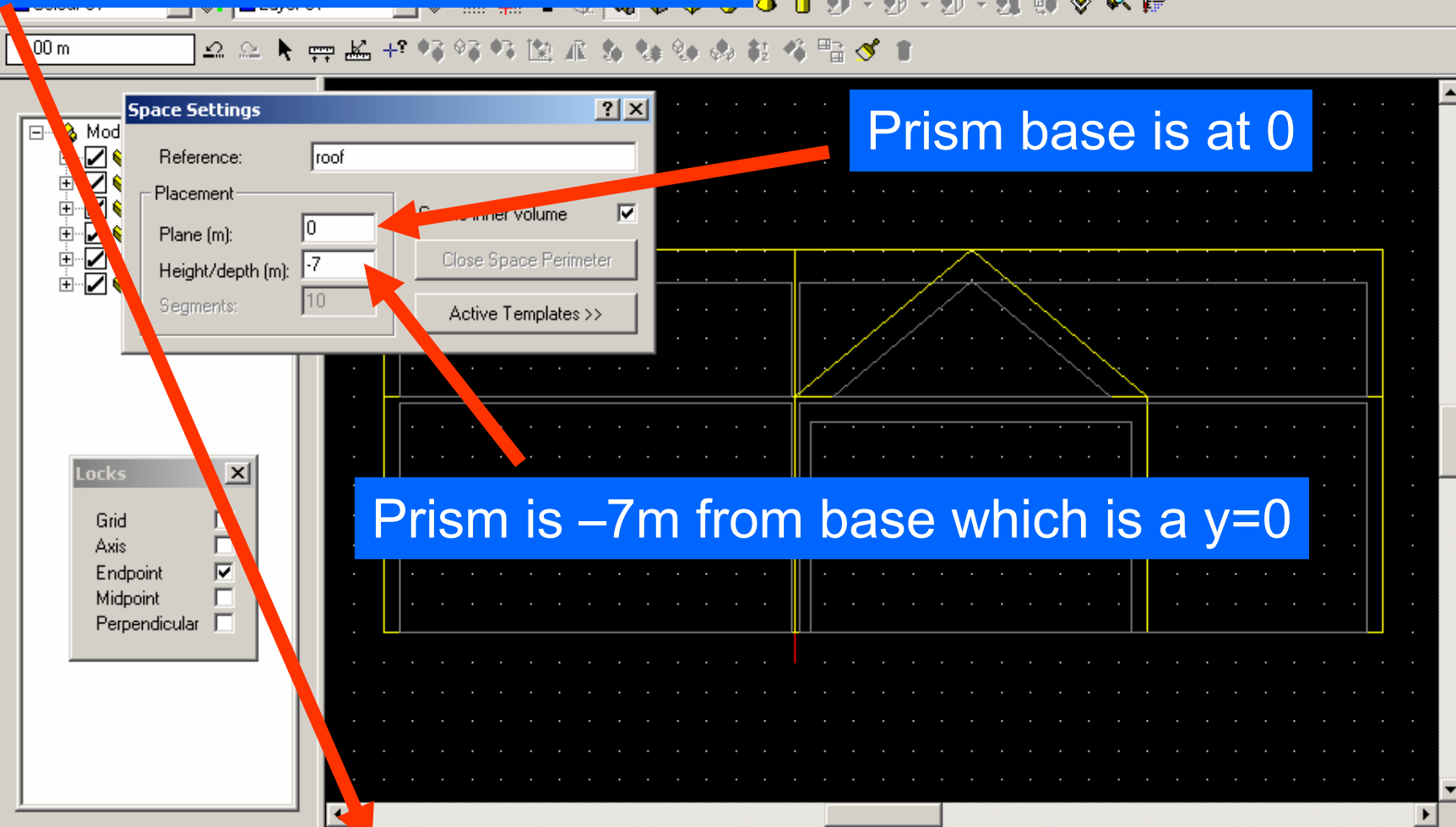
Grid

Axis

Endpoint

Midpoint

Perpendicular



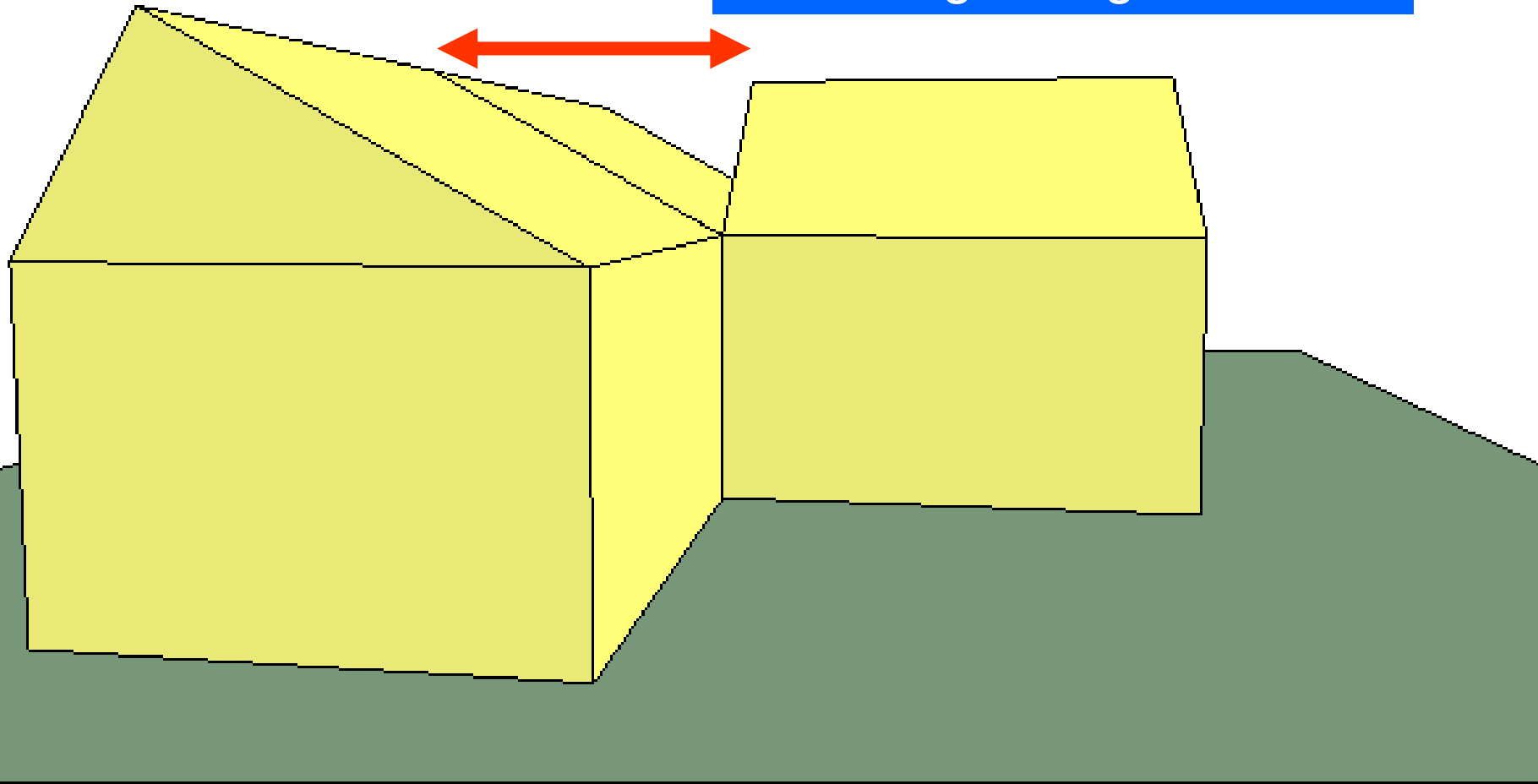
Front Model -2.34, 0.00, 6.28

Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer



Roof sits over room-03

Use 'Length' to get distance





ModelBuilder

Modell:  
Building  
modellerCom  
Comp  
mod

# Focus on roof, go down a level on model, edit vertex

Colour 01

Layer 01

4.51 m

Edit Space

Divide Space Separate Composite Space Edit Vertices

X	Y	Z
6.00000	0.00000	4.00000
-0.00000	0.00000	4.00000
3.00500	4.51000	6.52190
6.00000	-7.00000	4.00000
-0.00000	-7.00000	4.00000
3.00500	-7.00000	6.52190

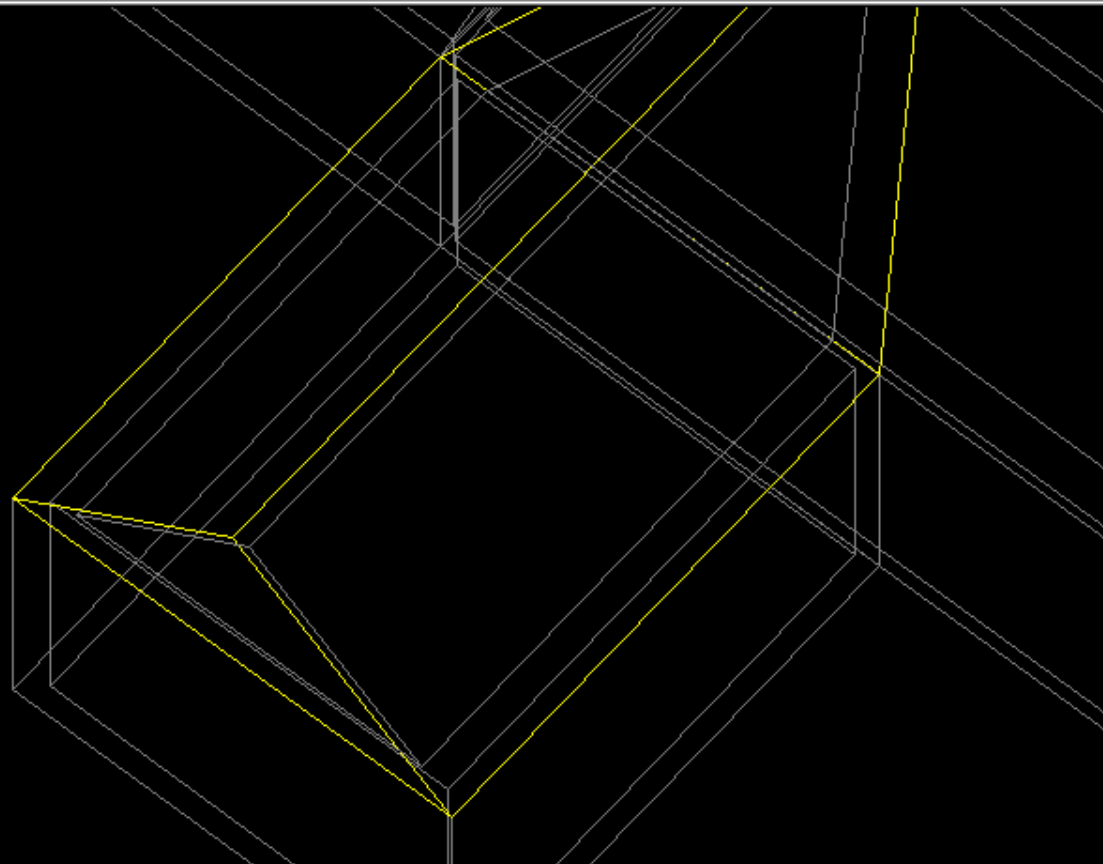
Vertex shift:

0

4.51

0

Move Vertices

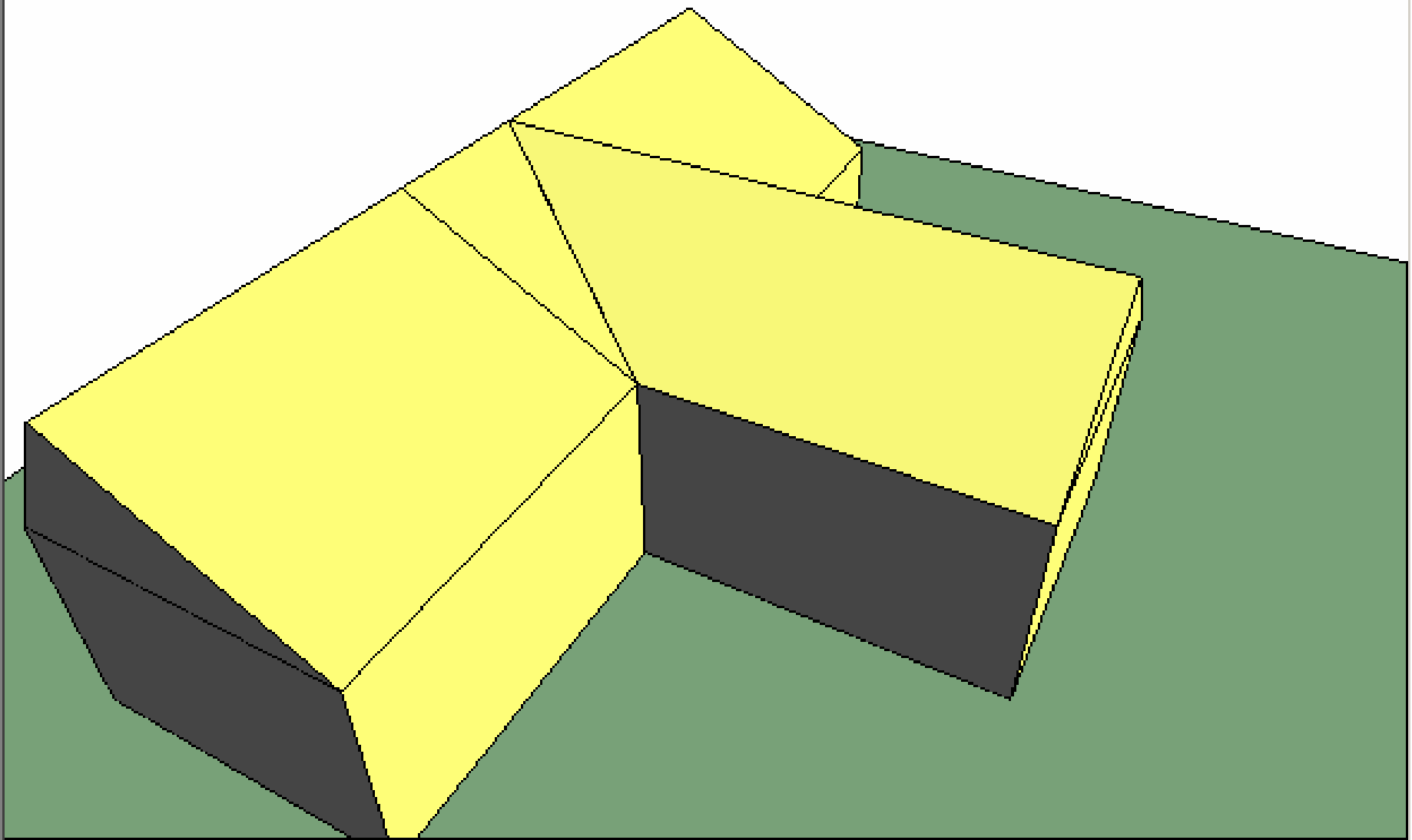


Axonometric Edit -1.36, -5.01, -1.71

Surface Area (m²)

Surface Orientation (°)

Surface Tilt (°)



# Axonomic view without wall thickness



ModelBuilder



ModellIT:  
Building  
modeller



CompLib:  
Component  
modeller

Thermal

Lighting

Solar

Value

Cost

Evacuation

Mechanical

Electrical

CFD

ModellIT - teaching\_01 - Axonomic: Model

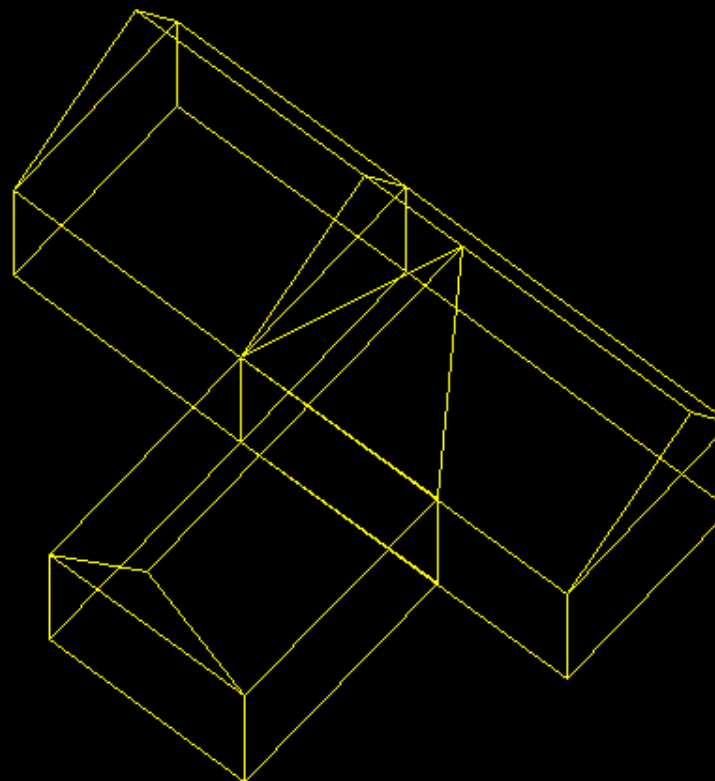
File Edit View Settings Draw Utilities Help

Colour 01

Layer 01

4.51 m

- Model
  - new\_rooms\_01
  - new\_rooms\_02
  - new\_rooms\_03
  - roof
  - roof
  - roof
  - SURFACE: Floor
  - SURFACE: Wall
  - SURFACE: Floor
  - SURFACE: Ceiling
  - SURFACE: Ceiling



Axonomic

Model

-5.73, -1.63, 1.41

	Room Name	Room ID	Volume (m³)	Floor Area (m²)	Colour	Layer
♥						