

# **garage**

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| <b>COLLABORATORS</b> |
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|               | <i>TITLE :</i><br>garage |               |                  |
| <i>ACTION</i> | <i>NAME</i>              | <i>DATE</i>   | <i>SIGNATURE</i> |
| WRITTEN BY    | Anja C. Frese            | July 19, 2024 |                  |

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| <b>REVISION HISTORY</b> |
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# Chapter 1

## garage

### 1.1 CYCAS DEMO - Help - Garage

Example : Plan of a garage. Show

This example is meant to demonstrate how you create a ground plan. Going through this tutorial you will try several wall functions. Using the dialog windows you can edit the height measurements of the walls. Later on you can look at and correct the height measures in the various projections.

Before you begin, you choose from the function list Project the item New in order to erase all elements which might be in the drawing area. If you start drawing a plan you do not need to decide in which scale your drawing shall be designed. The decision about the final scale of your drawing will be made if you do the output to printer, etc. This means that you always draw in the scale of 1:1. Choosing a scale in the view menu is just meant to display the drawing elements on your monitor in different detail enlargements. The garage shall have the external dimensions of 4.99m to 6.99m, the outer walls measure is 0.36m and there will be a garage door and a window. To start with, choose from the function list Wall the item Wall and select the scale 1:500 (in the view menu underneath the drawing area).

Input of walls:

The 1st Wall: Show

About in the middle of the drawing area you situate (watch the Help-bar below the drawing area) the "1. Corner point:" of the first wall. Confirm this point using the enter key, or you catch the same point with another mouseclick, the snap must be activated. The "2. Corner point" will be placed exactly upon the first one. Now you enter the length of the wall using the keyboard. Hit the cursor right key "X+:" and you enter "4.99" m. One enter moves the cross which marks the

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point the distance you entered. Then you define the thickness of the wall. Hit the cursor down key and move the cross "0.365"m downwards. One enter moves the cross and you confirm the point with a final enter.

Test the display menu:

Choose Zoom. Define the range of a new detail enlargement positioning two points. So you set two points, in a way that the first wall will be within the range of the two points. Or, try A; it is the abbreviation for "all", which means that all existing elements will be displayed. Further on, try -> The detail enlargement will be moved the distance you enter with two mouseclicks. All functions in the view menu can be activated while entering or altering drawing elements. If the display function is terminated you may continue entering drawing-elements.

Back to the garage:

Activate the buttons + and - of the view menu until the scale 1:100 is displayed. Now you select the scale button (the one in between the + and the - ) and position the middle-point of the new detail enlargement upon the first wall.

The 2nd wall: Show

Catch the lower left corner point of the first wall. confirm the "1. Corner point". "Move/Confirm:" move the second cornerpoint downwards entering "6.26" m and now move it to the right entering "0.365" m. after that, you confirm the lower corner point of the second wall.

The 3rd wall: Show

Copy the second wall to the right. To do so, choose from the main menu the menu list Edit, then select the item Copy. Instead of the function list the selection menu appears. All items for selecting elements are displayed. Use the options Active and Element in order to activate the second wall. Active Elements are displayed white. You confirm the activated elements klicking on OK. Now, you need to enter the distance where to move the copy of the wall. Help-bar: "Move/Start point:" Catch the upper right corner point of the active wall. This shall be the start point. Position the "End point:" of the distance at the lower right corner of the first (horizontal) wall. You confirm this point and you finish the copy-function aborting it with the right mousebutton somewhere outside of the drawing area, or choose another function right away.

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The dialog window:

Again, choose the function list Wall, then select the item Side. Now, have a look at the walls' dialog window. Click the item with the ? in its' button. Here you enter the preferences only concerning the wall elements. The name of the active dialog window is displayed in the walls' function list right beside the button with the ?. This is supposed to remind you which dialog window is active. Have a look at the dialog window: Using the index < > , you can choose one of the prearranged preferences; or you may enter your own preferences. Try the pen color red (ink pen 0.5mm) and the line. The wall thickness should be 0.365m. Confirm all these entries with clicking OK and the dialog window will be closed.

The 4th wall: Show

The "Start point:" needs to be situated upon the lower right corner point of the second wall. The end point shall be the lower, left corner point of the 3rd wall. So you also catch that point and confirm it. The Help-bar: "Select side:" You select the outer side of the garage. After this the wall thickness will be added, which was defined in the walls' dialog window.

The display of the last wall in the drawing area is not correct: To fix this, you choose the item in the view menu which looks like a sheet of paper ( the big button right of the -> ). You achieve a new plot of the drawing elements.

The joinings of the walls need to be corrected: Show

To do so, you choose further down in the walls' function list the item Join. Now you click using the pointer looking like a diagonal crosshair onto the second and the fourth wall. They will be joined to their intersection. Now they are mitre joint. Repeat this action clicking on the fourth and the third wall. In the end you have drawn the ground plan of the four walls in exact measure.

Further on, the display of the walls can be improved. To achieve this, you choose from the walls' function list the item All, you find it right below Connect. Automatically all wall endings will be connected of all those walls which have exactly matching corner points. All walls displayed in the same colour can be connected together.

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Input of openings :

Select the function list Opening. Here you start having a look at the dialog window of the openings. Click underneath the item Opening on the button with the ?. The symbol of the garages' door opening should be arranged without a stop and just with one line at the outside of the opening. Have a look at the input gadgets; especially those with the topic: >Stop. Here you enter the width and depth by typing "0.000"; if not already existing. Now you select the symbol of the opening; you achieve this using the index buttons underneath the preview of the opening symbol. After that you leave the dialog window with Continue.

The door: Show

This opening shall be entered positioning two points, which means with a start- and an end point. Therefore you deactivate the button with the !. The deactivated !-button means that the width mentioned next to it will not be taken into account. Under these circumstances you choose the item Opening. The Help-bar says: "Select wall:" To select the wall you click with the mouse looking like a diagonal crosshair onto the lower, horizontal wall. Now you need to enter the exact location of the opening. To achieve this, you snap the inner lower left corner of the garage. From there you move the start point of the opening about X+: 0.375 towards the right. Now you snap the inner lower right corner and you move the end point about X-: 0.375m. If you now look at the Help-bar, it should display "X: 3.5100" and "Y: 0.0000". If this is displayed you confirm the entry with a final enter. Finally you select the outer side of the wall. And the openings' symbol you have chosen from the dialog window will be placed into the wall.

The window: Show

Now you do the input of the window which shall be positioned in the wall on the opposite side of the garage door: Choose the item Window. Ensure that the button with the ! is pushed in, therefore the width signed up right beside this button will be taken into account. Choose using the index buttons the width which says: 1.01, or you enter it using the keyboard. Then you need to choose from the windows' dialog window the correct window symbol. After this you activate the upper horizontal wall. It will be displayed white, which means it is active. Snap the right corner of the garage door and confirm that point. Within the active wall the preview of the window will be displayed. If you move the mouse to the left and right the preview will flip; this shows you the width and the direction to which the

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window could be placed. Click on the left side. Finally, you select the outer side of the wall. The window with the symbol from the windows' dialog window will be fit into the wall.

With this input option showing you the input of points using projected reference points this tutorial is concluded.

All input-, edit- and modify-functions in Cycas root back to the input options mentioned in this tutorial. The way you get close to the aspired point using reference points and using the additive numeric input shall simulate the way you would proceed if you would draw by hand. Confirming each step of input offers you to combine the different Cycas input options.