Import lines from spreadsheets

ThanCad can import lines whose coordinates are stored in a spreadsheet ([1]). A spreadsheet contains one ore more sheets and each sheet is a table which contains cells arranged in rows and columns.

ThanCad only looks at the first sheet of the spreadsheet, and only at the first 3 columns. ThanCad ignores all other columns and all other sheets, so it is safe to write anything in these places.

The 3 first columns of the first sheet must contain the x, y, and z coordinates of the lines, respectively. If the lines do not have z coordinates, the third column must be blank. The coordinates are assumed to be non-relative cartesian coordinates.

Many different lines may be defined in a spreadsheet, by separating them with one or more blank rows.

Currently only .xls and .xlsx files are supported, and support of .ods is planned for the near future. The use of LibreOffice-Calc ([2]) spreadsheet is strongly recommended for the creation of .xls/.xlsd files. A very light alternative is gnumeric ([3]).

In order to open a spreasheet with lines use then "openspreadlines" command, or the use the menu of ThanCad:

Menu: File \rightarrow Open spreadsheet \rightarrow with lines



Example 1 Draw a rectangular floor plan of dimensions 10.00×8.00 m. The coordinates of the southwest point of the rectangle are 20.00,50.00 Also draw the diagonals of the rectangle. Solution with spreadsheet At first we calculate the cartesian coordinates of all points of the rectangle: 20,50+8 → 20,58 0-----0 20+10,50+8 → 30,58 $20+10,50 \rightarrow 30,50$ 20,50 0-----0 Then we type the coordinates of the rectangle in the first 2 columns of the first sheet of a spreadsheet. 20 50 30 50 30 58 20 58 20 50 Then, we leave 1 blank row and type the coordinates of the primary diagonal: 20 58 30 50 finally we leave 1 blank row and type the coordinates of the secondary diagonal: 20 50 30 58 Save the spreadsheet as rect1.xls and open it with ThanCad. See appendix 1 for screenshots of this procedure. Example 2 Draw a sine and a cosine curve for angles 0°-360° with step 10°. Multiply the sine and cosine values by 100 to make the drawing more balanced. Solution with spreadsheet a. On the fourth column of the spreadsheet we write the angles, using the computations of the spreadsheet: cell D1 \rightarrow =0 cell D2 \rightarrow =D1+10 Then copy cell D2 to cells D3 to D37 b. On the first and second column compute the x,y coordinates of the sine: cell A1 \rightarrow =D1 cell B1 → =100*sin(A1*pi()/180) Then copy cells A1:B1 to cells A2:B2 to A37:B37 c. Leave on blank row and compute the x,y coordinates of the cosine: cell A39 \rightarrow =D1 cell B39 → =100*cos(A39*pi()/180) Then copy cells A39:B39 to cells A40:B40 to A66:B66 Save the spreadsheet as sincos1.xls and open it with ThanCad. See appendix 2 for screenshots of this procedure.

Bibliography

[1] <u>https://en.wikipedia.org/wiki/Spreadsheet</u>

[2] <u>https://www.libreoffice.org/download/download-libreoffice/</u>

[3] <u>http://www.gnumeric.org/</u>

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