

# RedCrab

The Calculator

## News in User Manual 3.10

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## New in Version 3.10

In version 3.10, several expressions are written in a row. Formulas can be written without space rows between themselves and without a colon in the first column. But a colon in the first column generates no error. So it is compatible to older RedCrab files.

## 1.0 Mathematical Expressions

## 1.1 Basics

You can write your formula basically at any editor position. Any expression may occupied any number of rows and columns. It not allowed to split a expression and continue in the next row.

Wrong:  $z = 12+14+15+20$   
 $+5+10$

**Correct:**      $z = 12+14+15+20+5+10$

Correct:      $X = 12+14+15+20$   
                   $Z = X+5+10$

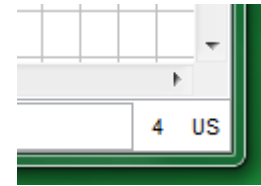
Several mathematical expressions can be written per row. Between each mathematical expression, there must either a minimum number at blank columns (defined in *Menu Options.Column Space*) or a colon must be set.

Example 1:

$$a = 3 : b = a + 7$$

Example 2:

$$a + 7 \qquad b = a + 7$$



The minimum distance displayed at bottom right corner, next to the keyboard setting. In example 2 the minimum distance is set to 4 columns.

An equal sign behind a formula is always assigned to the previous formula, even if the distance to the formula is greater than the column space setting. In the example right, the distance of the equal sign is up to eight columns, although the minimum distance is only four columns.

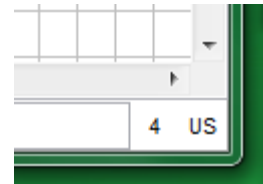
$$\begin{aligned} C1 &= \frac{1}{2 \pi f_H Z \sqrt{2}} = 5.024 \cdot 10^{-6} \\ L1 &= \frac{Z \sqrt{2}}{2 \pi f_H} = 643.1 \cdot 10^{-6} \\ C2 &= C1 = 5.024 \cdot 10^{-6} \\ L2 &= L1 = 643.1 \cdot 10^{-6} \\ C3 &= \frac{1}{2 \pi f_L Z \sqrt{2}} = 17.58 \cdot 10^{-6} \end{aligned}$$

Close proximity can caused unexpected errors. For error localization RedCrab marked the cell where an error is detected with a blue frame. It also marks the incorrect formula with a red frame. In the example below, an invalid assignment is signaled. The red box shows, however, that two formulas were joined because the distance is too close. The setting in this example is 4 columns, the distance between the formulas is only 2 columns.

$$Q_s = \frac{2 \pi f_0 L}{R} = L \equiv 2.5 \cdot 10^{-3}$$

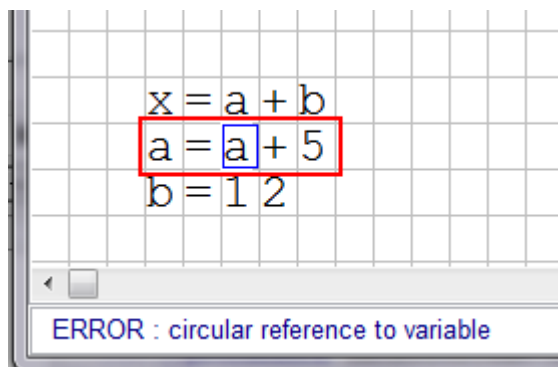
## 6.56 Option.Column Space

The menu *Column Space* opens a dialog window to set the minimum distance between two formulas in a row. The minimum value you can set is 2 columns. RedCrab displays the value in the bottom, right corner, next to the keyboard setting. You can also open the dialog window with click on the number.

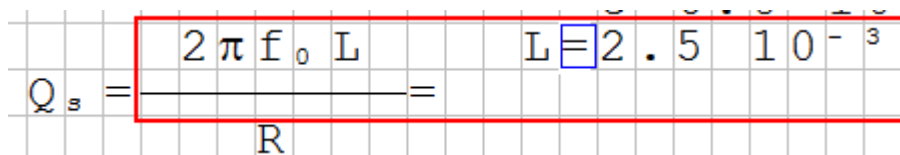


## 7.9 Error Messages

For error location RedCrab marks the cell in where an error is detected with a blue frame. It also marks the incorrect formula with a red frame.



The marking of the entire formula simplifies the localization of errors that cause a false positioning. In the example below, an invalid assignment is signaled. The red selected box indicates, however, that two formulas were joined because the distance is too close. In this example the adjustment of the distance (column space) is 4 columns; the distance between the formula is only 2 columns.



## 6.30 Insert.Image File

In version 3.10 beside bitmap files (\*. bmp) RedCrab also can imports photos from Jpeg files (\* jpg). The Jpeg format is not suitable for technical drawings. It creates blurred images around edges and errors in the transparency of the images. When saving files in bitmap images, RedCrab compressed images without loss and they are usually smaller than jpeg format.