

The function analyzes the stability of a transfer function calculating poles signs. The function returns the Routh table of a polynomial expression also with parameters. It's ideal for exams.

Example

Analyze the transfer function  $\frac{3 \cdot (1 + s)}{s^4 + 2 \cdot s^3 + 4.2 \cdot s^2 + .8 \cdot s + k}$

Enter `routh(fun_denom)`

F1	F2	F3	F4	F5	F6
Tools	Algebra	Calc	Other	Pr3mlD	Clean Up
$\frac{3 \cdot (s + 1)}{s^4 + 2 \cdot s^3 + 4.2 \cdot s^2 + .8 \cdot s + k} \rightarrow tf$					
$\frac{3 \cdot (s + 1)}{s^4 + 2 \cdot s^3 + 4.200 \cdot s^2 + .800 \cdot s + k}$					
routh(getdenom(tf))					
MAIN	DEGRUIT	FUNC	1/30		

F1	F2	F3	F4	F5	F6
Tools	Algebra	Calc	Other	Pr3mlD	Clean Up
$\begin{array}{r} 1.000 \\ 2.000 \\ 7.600 \\ -4.000 \cdot (k - 1.520) \\ -8.000 \cdot k \cdot (k - 1.520) \end{array} \begin{array}{r} 4.200 \\ .800 \\ 2 \cdot k \\ 0.00 \\ 0.00 \end{array}$					
routh(getDenom(tf))					
MAIN	DEGRUIT	FUNC	2/30		

You can now analyze k to have stability, store matrix etc.

This program has been already used many times without problems. If you finds any bug first assure you to have selected the English language in the mode and not to have translated the code with any program. If the problem persists please let me know.

For a better and faster answer please enclose some screenshot of the bug: entered inputs, expected outputs, error messages, erroneous code line, mode stetting... it will help me very much!

My address is [paolosilingardi@interfree.it](mailto:paolosilingardi@interfree.it) . Thank you very much for your help!

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