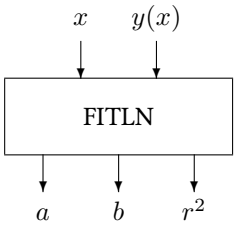
Block FITLN

The FITLN block approximates the input data by a logarithmic function.





Name	FITLN
Function	fb0035
Inputs	2
Outputs	3
Parameters	0
Strings	0
Group	I

Inputs

1 Any value x
2 Corresponding $y(x)$ value

Outputs

1 Fit coefficient a
2 Fit coefficient b
3 Regression coefficient r^2

Parameters

None

Strings

None

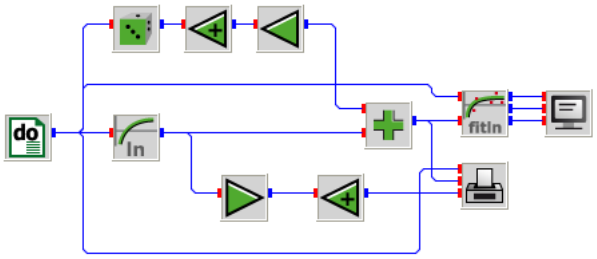
Description

The blocks input data are approximated by the logarithmic function

$$y = a + b \ln x$$

The successors of this block are executed only at the end of the simulation run.

fitln.vseit



A DO block runs x values from 1 to 10 in steps of 0.01. The data are used by an LN block to calculate $\ln x$ to which some noise is generated in the upper part of the block diagram and added to $\ln x$. This signal is used by the FITLN block to find $a = 0$ and $b = 1$, theoretically.

The noise is generated by a RAN1 block with an offset of -0.5 calculated by the OFFSET block. An attenuator block ATT divides the noise by 5.

The outputs a, b, and r^2 are displayed numerically by a SCREEN block.

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-0.000548    0.999736    0.990468
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Assuming that the result is already known ($a = -0.000548$ and $b = 0.999736$) the logarithmic equation $y' = a + b \ln x$ is calculated and plotted against the input data by a PLOT block.

