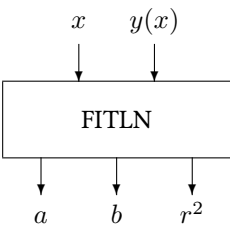


Block FITLN

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

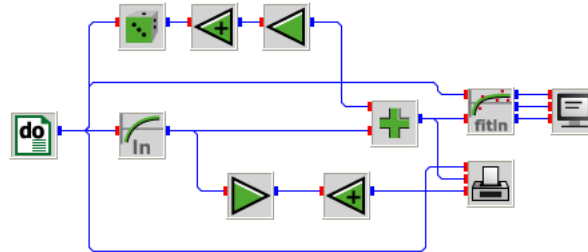
None

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.

-0.000548 0.999736 0.990468

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.

