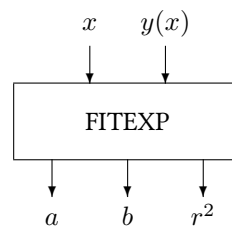


Block FITEXP

The FITEXP block approximates the input data by an exponential function.



Name	FITEXP
Function	fb0034
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

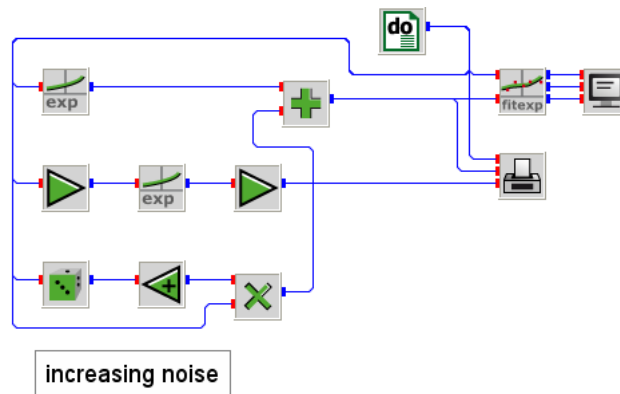
None

Description The blocks input data are approximated by the exponential function

$$y = a \exp(bx)$$

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

fitexp.vseit



A **DO** block runs x values from 0 to 3 in steps of 0.01. The data are used by an **EXP** block to calculate $\exp(x)$ to which some noise is generated in the lower part of the block diagram and added to $\exp(x)$. This signal is used by the **FITEXP** block to find $a = 1$ and $b = 1$, theoretically.

The noise is generated by a **RAN1** block with an offset of -0.5 calculated by the **OFFSET** block. A **MUL** block multiplies the noise by the output of the **DO** block to make it increasing in amplitude as x grows.

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

0.99717307 0.99807161 0.99165821

Assuming that the result is already known ($a = 0.99717307$ and $b = 0.99807161$) the exponential equation $y' = a \exp(bx)$ is calculated and plotted against the input data by a **PLOT** block.

