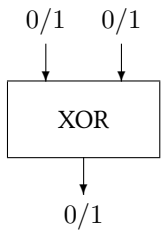
Block XOR

The XOR block checks whether its first input is equal to one and the second one is equal to zero or (exclusive) the first input is equal to zero and the second one is equal to one.

XOR



Name	XOR
Function	fb0030
Inputs	2
Outputs	1
Parameters	0
Strings	0
Group	S

Inputs

1 Any value x_1 close to one or zero
2 Any value x_2 close to one or zero

Outputs

1 y is set to one if $x_1 \in [0.5, 1.5)$ and $x_2 \in (-0.5, 0.5)$ or vice versa, otherwise y is set to zero

Parameters

None

Strings

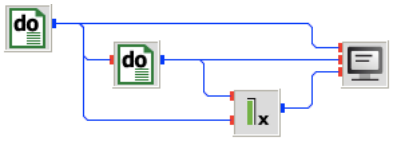
None

Description

The output signal y is calculated from the inputs x_1 and x_2 according to

$$y = \begin{cases} 1 & \text{if } (x_1 \in [0.5, 1.5) \text{ and } x_2 \in (-0.5, 0.5)) \\ & \text{or } (x_1 \in (-0.5, 0.5) \text{ and } x_2 \in [0.5, 1.5)) \\ 0 & \text{else} \end{cases}$$

xor.vseit



Two nested DO blocks deliver all combinations of zero and one, connected to an XOR block. The result is displayed by the SCREEN block.

```
0.0   0.0   0.0
0.0   1.0   1.0
1.0   0.0   1.0
1.0   1.0   0.0
```

See also

Blocks AND, OR.