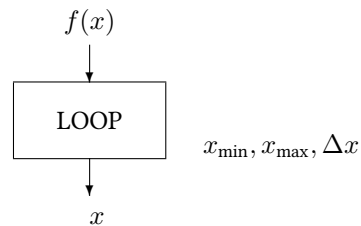


## Block LOOP

The LOOP block runs through a sequence of values defined by parameters, restricted to a part of the simulation model.



|                   |        |
|-------------------|--------|
| <b>Name</b>       | LOOP   |
| <b>Function</b>   | fb0055 |
| <b>Inputs</b>     | 1      |
| <b>Outputs</b>    | 1      |
| <b>Parameters</b> | 3      |
| <b>Strings</b>    | 0      |
| <b>Group</b>      | L      |

### Inputs

- 1 Any signal  $y = f(x)$  within the loop

### Outputs

- 1 Signal  $x$  which is varied in steps as defined through the parameters

### Parameters

- 1 Minimum output signal  $x_{\min}$
- 2 Maximum output signal  $x_{\max}$
- 3 Increment of  $x$  per step  $\Delta x$

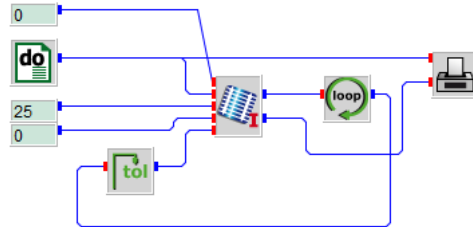
### Strings

None

### Description

The output signal of the **LOOP** block runs from  $x_{\min}$  to  $x_{\max}$  in steps of  $\Delta x$ . The function is very similar to that of the **DO** block with one difference: **DO** is a T-block, while **LOOP** is an L-block, which can set up a local loop.

`loop.vseit` This example shows how a **LOOP** block can be used in the calculation of steady-state PV module temperatures as a function of the global radiation.

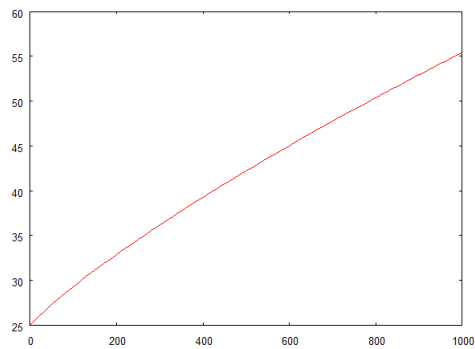


The global radiation is varied from 0 to 1000 Watt per square meter in steps of 10 by the **DO** block. The output of the **DO** block is used by a **PVI** block which calculates the current and module temperature in DEQ temperature mode. Ambient temperature and wind speed are set constant by **CONST** blocks.

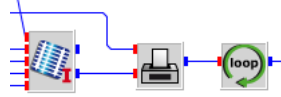
The **LOOP** block sets up a local loop. Since its output is used as time input of the **PVI** block the parameters are set to a start of 0, stop of 3600 and increment 60 seconds, i. e., the **LOOP** block simulates one hour during which the PV module can heat up. Since the voltage is set to zero the **PVI** block simulates short-circuit-current operation.

Please notice that the feedback connection between **LOOP** and **PVI** block does not set up an algebraic loop. This is a feature of L-blocks in combination with a **TOL** block.

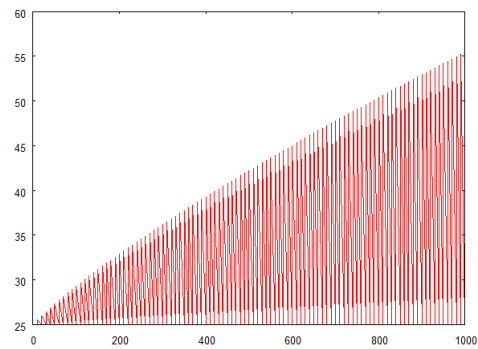
The **PLOT** block shows the final result.



The  $x$  coordinate is the solar radiation in Watt per square meter, the  $y$  coordinate the steady-state module temperature in degrees Celsius.



If the [PLOT](#) block is placed between the [PVI](#) block and the [LOOP](#) block the iteration process for each radiation value can be observed.



See also [Block DO](#), [block MPP](#), and [block NULL](#), for instance.