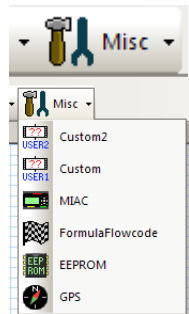


## Run the software

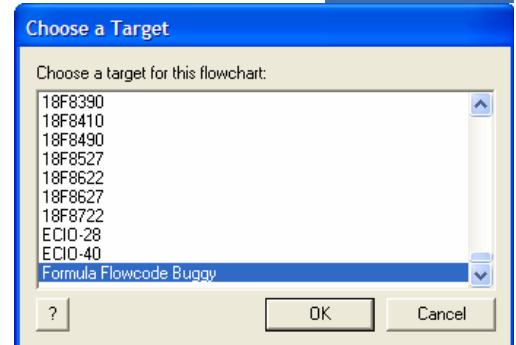
Run Flowcode V4 by double clicking on this icon.



Select "Create a new Flowcode flowchart..." on the opening screen and click "OK".

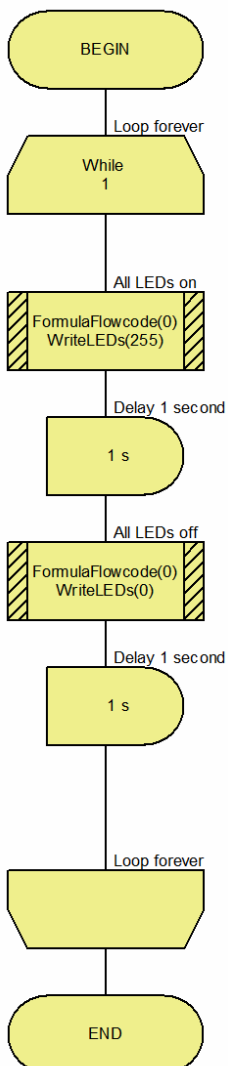


Select the "Formula Flowcode Buggy" as the target device and click "OK" (see screenshot above).



Click the "Formula Flowcode" component icon:

## Flashing the LEDs



Very often in programming, it is essential that the microcontroller runs a program forever. For this, we will use the "Loop" icon. This icon can either loop a certain number of times, or it can loop while a certain condition is true.

Add the "Loop" icon to your blank flowchart and edit its properties so that it loops forever. To do this, edit the "Loop while" box so it displays "1=1" (1 is always equal to 1, so the loop condition is always true and the loop is repeated forever).

Alternatively, write "1" into this box - this is also always true.

Within the two Loop icons, add a "Component Macro" icon. Change it so that it calls the "WriteLEDs" macro and set its parameter to "255". This will turn all of the LEDs on.

Why use 255 to turn on all of the LEDs? This macro uses a binary value to represent the state of each LED - 0 for off and 1 for on. To turn on all 8 LEDs, we need to send the binary value of "11111111" to the macro (which is 255 in decimal).

Add additional icons to your program so that the finished program looks like the one on the left.

Save this program and then simulate it using the "Run" button. You can also pause the program and step through each icon one at a time during simulation.

The LEDs on the simulation should flash on and off. This will continue forever until you stop the simulation.