Does the Automator support array variables?

Topic

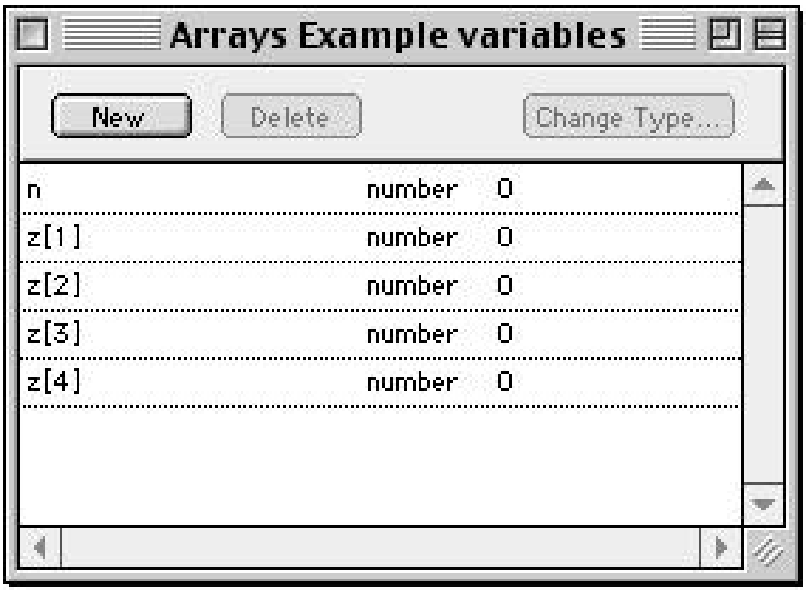
Beginning with Automator 2.0.8, the Automator fully supports array variables. Arrays are variables that are referenced using a name and an index. The combination of the two uniquely identifies the variable.

The power of this is that it allows you to perform the same process repeatedly using a loop, but using different data each time round the loop.

Discussion

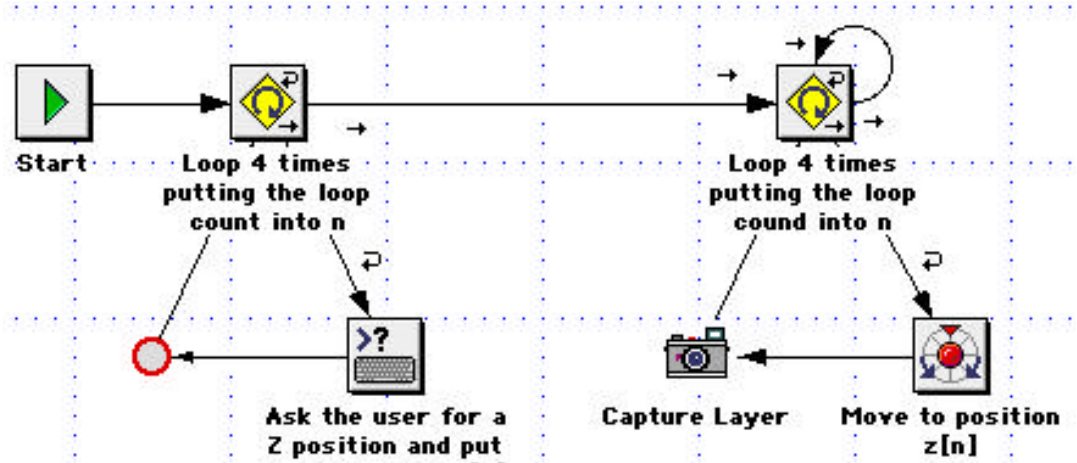
As an example, imagine that we would like to write an automation that asks the user for a series of Z-focus positions, then repeatedly moves to each position and captures a picture to a new layer.

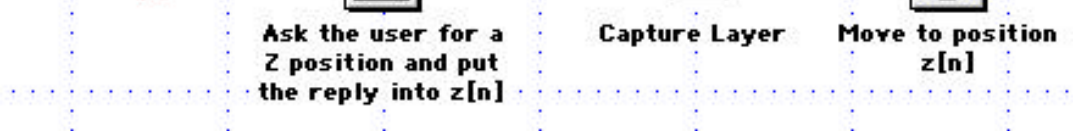
First, we have to set up an array variable in the Automator with as many indices as we want Z positions. We do this by creating variables called z[1], z[2], z[3] and so on. In this example we will make 4 array variables. We also create a variable called n that we will use as a loop counter.



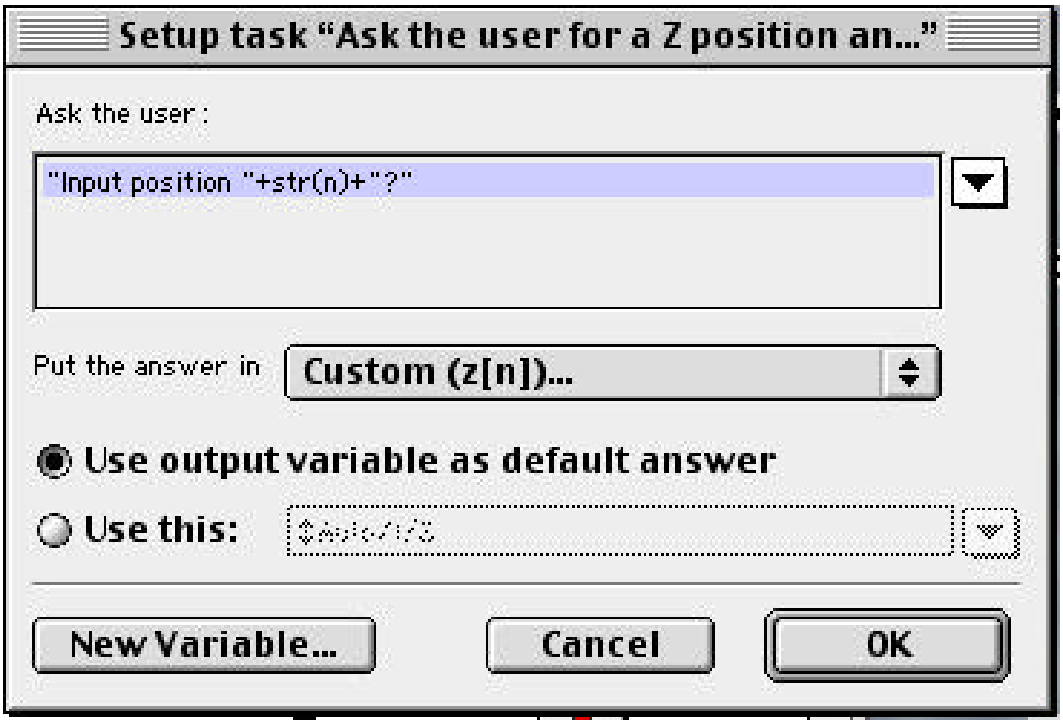
Our automation will have two halves. The first loop will ask for a series of Z positions (four in this case). The second half will repeatedly move to each Z position and capture a frame. The capture loop will repeat until the user stops the automation.

Here is the complete automation :



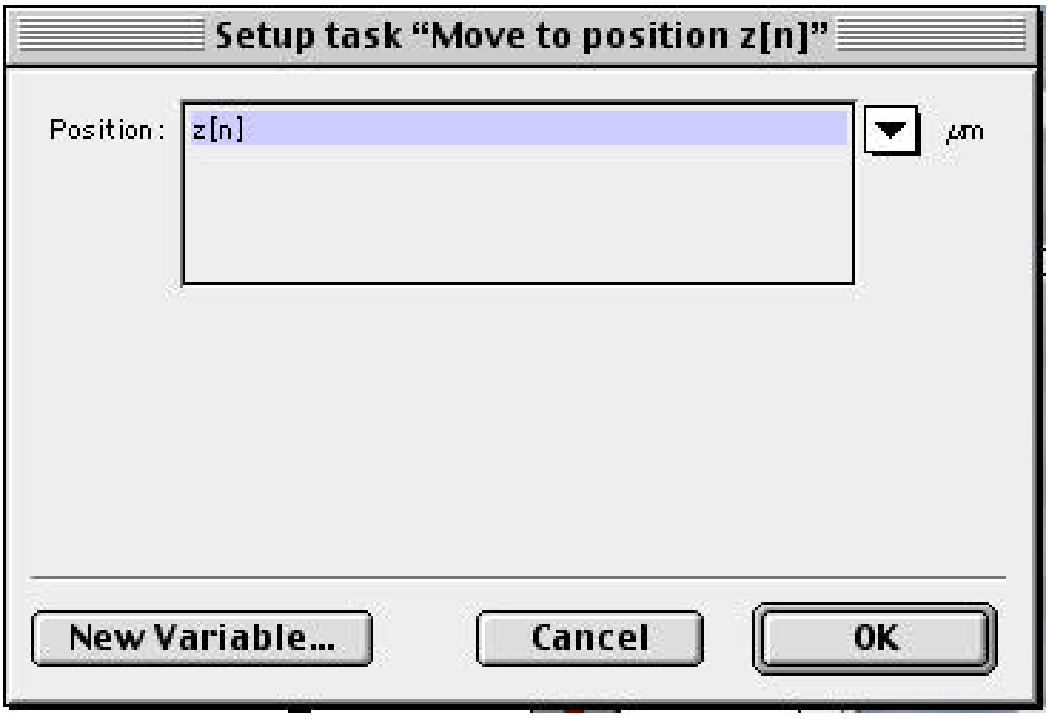


The two really interesting tasks here are the “Input” task and the “Move To” task. Here is the setup for the “Input” task:



We can see from this task that instead of putting the answer in z[1] or z[2], we put the answer in z[n]. When the task is executed, the Automator looks at the value of n and translates z[n] into z[1], z[2], z[3] or z[4]

In the “Move To” task, we use the array variable as an input to the task. Here is the task setup for the “Move To” task:



Here, we use z(n) as the position to move the focus drive to. The Automator again looks at the value of n and translates z(n) into z[1], z[2], z[3] or z[4].