



Conditional statements with LEGO® WeDo - Part 10

By *Diego Gálvez*

Pictures by Diego Gálvez

In this part I will explain in detail how to program a conditional statement using the tilt sensor in the LEGO® WeDo set.

A **Conditional Statement** is an instruction or a group of instructions that are executed or not, depending on the value of a condition. By default the WeDo software allows for one conditional statement.

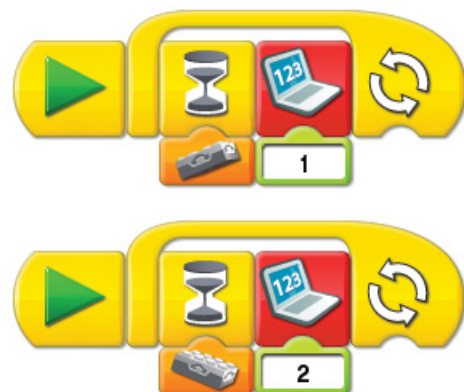
Below I will show you how to implement the concept of **Conditional Statements** using the programming blocks in the WeDo software.

We will use two positions of the tilt sensor and assign a task to each one. To this end we first need to know what the current position of the sensor is. You can do this using a “Conditional Statement”. This can be done using the following methods:

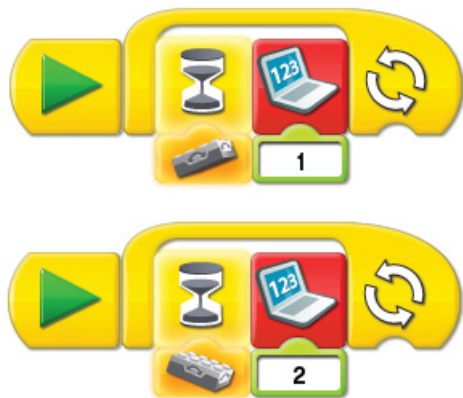
The **first method** consists in creating a conditional statement using several parallel programs that run simultaneously. For the following example I will use two simultaneous programs since there are two possible sensor states in the program:

- If the sensor is tilted up the program should show background 1 on the screen.
- If the sensor is tilted down the program should show background 2 on the screen.

Writing this program with the WeDo blocks results in two sub-programs:



To run them you need to click on the **Star block** (▶) of both sub-programs. When you do so, you will see this:



You can see both sub-programs are waiting for the tilt sensor to choose be in one of the programmed positions; so when you tilt the **sensor up** the program will show background 1 and when you tilt the **sensor down** it will show background 2.



Second Method

Another way to create a "Conditional Statement" in the WeDo software is using the message blocks: **send message** block (✉) and **start on message** block (📧).

I will use the same example as in the first method.

There are two cases:

- If the sensor is tilted up the program should show background 1 on the screen.
- If the sensor is tilted down the program should show background 2 on the screen.

Writing this program with the WeDo blocks results in four sub-programs:



First Case:

- Wait until the sensor is **tilted up**; when this happens send message "a".



- When the sub-program with input "a" receives the corresponding message it will show background 1.



Second Case:

- Wait until the sensor is **tilted down**; when this happens send message "b".



- When the sub-program with input "b" receives the corresponding message it will show background 2.



To run them you need to click on the Start block (▶) of both sub-programs.

This is the last part of the tutorial explaining the use of the WeDo programming software. Future parts will show applications of the programming as well as some models with their corresponding programs.

On the website notjustbricks.blogspot.com you will find multimedia materials (images and videos) of the creations of the author, some of which come with building instructions.
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