Visual programing blocks - IfElse

Conditional statements are central to computer programming. They make it possible to express statements like:

- If there is a path to the left, turn left.
- If score = 100, print "Well done!".

See additional information about conditional statements.

Blocks

If blocks

The simplest conditional statement is an **if** block, as shown:

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When run, this will compare the value of the variable **x** to 100. If it is larger, "What a big number!" will be printed. Otherwise, nothing happens.

If-Else blocks

It is also possible to specify that something should happen if the condition is *not* true, as shown in this example:
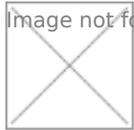
As with the previous block, "What a big number!" will be printed if $x > 100$; otherwise, "That's not very big." will be printed.

An **if** block may have zero or one **else** sections but not more than one.

If-Else-If blocks

It is also possible to test multiple conditions with a single **if** block by adding **else if** clauses:

The block first checks if $x > 100$, printing "What a big number!" if it is. If it is not, it goes on to check if $x = 42$. If so, it prints "That's my lucky number." Otherwise, nothing happens.

An **if** block may have any number of **else if** sections. Conditions are evaluated top to bottom until one is satisfied, or until no more conditions are left.

If-Else-If-Else blocks

As shown here, **if** blocks may have both **else if** and **else** sections:
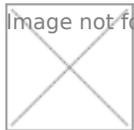
The **else** section guarantees that some action is performed, even if none of the prior conditions are true.

An **else** section may occur after any number of **else if** sections, including zero.

Block Modification

Only the plain **if** block appears in the toolbox:

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To add **else if** and **else** clauses, the user needs to click on the gear icon, which opens a new window:

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The user can then drag **else if** and **else** clauses into the **if** block, as well as reordering and removing them. When finished, the user should click on the minus sign, which closes the window, as shown here:

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Note that the shapes of the blocks allows any number of **else if** subblocks to be added but only up to one **else** block.