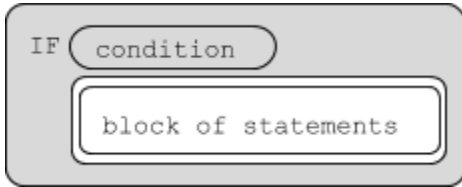


## Selection

**Text**

```
IF (condition)
{
    <block of statements>
}
```

**Block**



The code in block of statements is executed if the Boolean expression condition evaluates to true; no action is taken if condition evaluates to false.

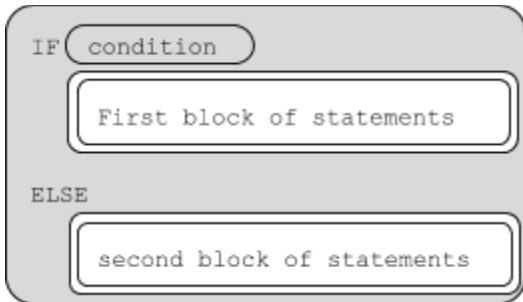
**Commentary:**

An if-statement might execute some code or it might not. It checks to see IF something is true (the “condition”). If it is true, then run some code contained inside the if-statement. Otherwise, if the condition is false, *just ignore the whole block* and pick up executing the code that comes after it.

**Text**

```
IF (condition)
{
    <first block of statements>
}
ELSE
{
    <second block of statements>
}
```

**Block**



The code in first block of statements is executed if the Boolean expression condition evaluates to true; otherwise the code in second block of statements is executed.

**Commentary:**

An if-else statement is an “either or”. You are saying: “I want to run *either* this block of code *or* this other one”. An if-else *guarantees* that one of the two blocks of statements *will* execute. If the condition is true, then run the first block of statements and ignore the other block. If the condition is FALSE, then ignore the first block and run the second one.

**Important Note:** While an if statement can stand on its own (see above), an ELSE statement cannot - it *must* be “attached” to an IF statement, and no lines of code can be inserted between an if and else.

## Robot

**Text:**

```
MOVE_FORWARD ()
```

**Block:**



The robot moves one square forward in the direction it is facing.

**Text:**

```
ROTATE_LEFT ()
```

**Block:**



The robot rotates in place 90 degrees counterclockwise (i.e., makes an in-place left turn).

**Text:**

The robot rotates in place 90 degrees clockwise (i.e., makes an in-place

<p>ROTATE_RIGHT ()</p> <p><b>Block:</b></p> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; width: fit-content; margin: 5px auto;">ROTATE_RIGHT</div>	<p>right turn).</p>
<p><b>Text:</b> CAN_MOVE (direction)</p> <p><b>Block:</b></p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 5px auto;">CAN_MOVE direction</div>	<p>Evaluates to <b>true</b> if there is an open square one square in the direction relative to where the robot is facing; otherwise evaluates to <b>false</b>. The value of direction can be left, right, forward, or backward.</p> <div style="border: 1px solid black; background-color: #f0f0f0; padding: 10px; margin-top: 10px;"> <p><b>Commentary:</b> CAN_MOVE is a <i>condition</i> that you can use in an if-statement - it will either be true or false. Example: IF( CAN_MOVE (forward)) is a way to check if the space in front of the robot is open.</p> </div>