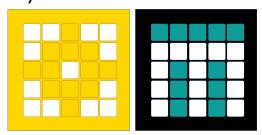


By the Makers of EV3Lessons



IF ELSE STATEMENTS

BY ARVIND SESHAN

LESSON OBJECTIVES

- Learn how to make your robot decide what to do out of different choices
- Learn how to use an if else statement

IF ELSE STATEMENTS

- Asking the robot a question and doing something different based on the answer
- Example:
 - Does the robot see a line? Or not?
 - Is the robot near the wall? Or not?
- It is like a yes/no question
- An if statement requires an expression with a Boolean output. If the output, is true, the indented code below will run

```
if expression:
```

#Code

You can add an else statement after to run code if the expression returns false

```
if expression:
```

#Code

else:

#Code 2

ELIF STATEMENTS

if expression:

#Code

#Code 4

- Notice that in the last example, the else statement took no inputs. It just ran when the if expression returned false.
- The elif statement can be used to check another condition, given the previous condition returned false. elif stands for "else if".

```
elif expression2:
    #Code 2

Code 2 will only run if expression returns false and expression2 returns true.

You can use multiple if and elif statements in a row, but only one else statement.
if expression:
    #Code
elif expression2:
    #Code 2
elif expression3:
    #Code 3
else:
```

CHALLENGE: HAPPY OR SAD?

- Write a program that changes the display based on if the Force Sensor is pressed or not pressed
- If pressed, your SPIKE Prime is happy. Display a smiley face.
 On the LED Matrix.
- If not pressed, SPIKE Prime is sad! Display a sad face.
- You will need to use the Light Functions, a loop, and an If Else Statement.



CHALLENGE SOLUTION

```
force = ForceSensor('F') Initialize the Force Sensor
while True: Run the code forever
   if (force.is_pressed()):
      hub.light_matrix.show_image('HAPPY') When the Force sensor is pressed,
      the LED Matrix shows a happy face
   else:
      hub.light_matrix.show_image('SAD') When you let go of the Force sensor,
      the LED Matrix shows a sad face
```

CREDITS

- This lesson was created by Arvind Seshan for Prime Lessons
- More lessons are available at www.primelessons.org



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