

Bahan Ajar

Chapter 7



Materi Pembelajaran

Matakuliah :

# INTERFACING PERIPHERAL

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# Python Logical Conditions

Python supports the usual logical conditions from mathematics:

- Equals: `a == b`
- Not Equals: `a != b`
- Less than: `a < b`
- Less than or equal to: `a <= b`
- Greater than: `a > b`
- Greater than or equal to: `a >= b`

## Example

If statement:

```
a = 33
b = 200
if b > a:
    print("b is greater than a")
```

# Elif

The elif keyword is python's way of saying "if the previous conditions were not true, then try this condition".

## Example

```
a = 33
b = 33
if b > a:
    print("b is greater than a")
elif a == b:
    print("a and b are equal")
```

# Else

The else keyword catches anything which isn't caught by the preceding conditions

## Example

```
a = 200
b = 33
if b > a:
    print("b is greater than a")
elif a == b:
    print("a and b are equal")
else:
    print("a is greater than b")
```

# Else

You can also have an else without the elif:

## Example

```
a = 200
b = 33
if b > a:
    print("b is greater than a")
else:
    print("b is not greater than a")
```

## Short Hand If

If you have only one statement to execute, you can put it on the same line as the if statement

### Example

One line if statement:

```
if a > b: print("a is greater than b")
```

## Short Hand If ... Else

### Example

One line if else statement:

```
a = 2  
b = 330  
print("A") if a > b else print("B")
```

# And

The and keyword is a logical operator, and is used to combine conditional statements:

## Example

Test if **a** is greater than **b**, AND if **c** is greater than **a**:

```
a = 200
b = 33
c = 500
if a > b and c > a:
    print("Both conditions are True")
```

# Or

The or keyword is a logical operator, and is used to combine conditional statements:

## Example

Test if **a** is greater than **b** , OR if **a** is greater than **c** :

```
a = 200
b = 33
c = 500
if a > b or a > c:
    print("At least one of the conditions is True")
```

# Nested If

You can have if statements inside if statements, this is called nested if statements.

## Example

```
x = 41

if x > 10:
    print("Above ten,")
    if x > 20:
        print("and also above 20!")
    else:
        print("but not above 20.")
```

# The pass Statement

if statements cannot be empty, but if you for some reason have an if statement with no content, put in the pass statement to avoid getting an error.

## Example

```
a = 33  
b = 200  
  
if b > a:  
    pass
```

## **Tugas Mandiri (teori):**

1. Is there a limit on how many statements I can place in an if or else code block?.
2. Is there a limit on how many elif statements I can place in an if statement?
3. How would you write the if statement to display a message only if the value stored in the z variable is between 10 and 20 (not including those values)?

## **Tugas Mandiri (prakt):**

Tuliskan script program python **IF-ELSE** untuk menghidupkan 6 buah LED secara bergantian di Raspberry Pi.

end

