Bahan Ajar

Chapter 10

Materi Pembelajaran

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Tables of Content

Python Lambda

A lambda function is a small anonymous function.
A lambda function can take any number of arguments, but can only have one expression.

Syntax

```
lambda arguments : expression
```

The expression is executed and the result is returned:

Example

Add 10 to argument `a`, and return the result:

```
x = lambda a : a + 10
print(x(5))
```

Python Lambda

Lambda functions can take any number of arguments:

Example

Multiply argument `a` with argument `b` and return the result:

```
x = lambda a, b : a * b
print(x(5, 6))
```

Example

Summarize argument `a`, `b`, and `c` and return the result:

```
x = lambda a, b, c : a + b + c
print(x(5, 6, 2))
```

Why Use Lambda Functions?

The power of lambda is better shown when you use them as an anonymous function inside another function.

Say you have a function definition that takes one argument, and that argument will be multiplied with an unknown number:

```
def myfunc(n):
  return lambda a : a * n
```

Use that function definition to make a function that always doubles the number you send in:

Example

```
def myfunc(n):
  return lambda a : a * n

mydoubler = myfunc(2)

print(mydoubler(11))
```

Why Use Lambda Functions?

Or, use the same function definition to make a function that always triples the number you send in:

Example

```
def myfunc(n):
  return lambda a : a * n

mytripler = myfunc(3)

print(mytripler(11))
```

Or, use the same function definition to make both functions, in the same program:

Example

```
def myfunc(n):
  return lambda a : a * n

mydoubler = myfunc(2)
mytripler = myfunc(3)

print(mydoubler(11))
print(mytripler(11))
```

Python Casting

Casting in python is therefore done using constructor functions:

- int() - constructs an integer number from an integer literal, a float literal (by removing all decimals), or a string literal (providing the string represents a whole number)
- float() - constructs a float number from an integer literal, a float literal or a string literal (providing the string represents a float or an integer)
- str() - constructs a string from a wide variety of data types, including strings, integer literals and float literals

Python Casting

Example

Integers:

```
x = int(1)   # x will be 1
y = int(2.8) # y will be 2
z = int("3") # z will be 3
```

Example

Floats:

```
x = float(1)     # x will be 1.0
y = float(2.8)   # y will be 2.8
z = float("3")   # z will be 3.0
w = float("4.2") # w will be 4.2
```

Example

Strings:

```
x = str("s1") # x will be 's1'
y = str(2)    # y will be '2'
z = str(3.0)  # z will be '3.0'
```

Tugas Mandiri (teori):

1. How can I add some sort of help to my custom module?
2. The Raspberry Pi can use different operating systems. Which one is recommended for those who are new to the Raspberry Pi? Explained

Tugas Mandiri (prakt):

Tuliskan script program python dengan fungsi **Lambda** dan **Casting** untuk menghidupkan 6 buah LED di Raspberry Pi.

end