Bahan Ajar

Chapter 5

Materi Pembelajaran

Matakuliah :

INTERFACING PERIPHERAL

Kode Matakuliah : SKO 20416

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Chapter 5

Tables of Content

Python Decission Making
- Python Math Operators
- Built-in Math Functions
- The Math Module
- Math Constants

Tugas Mandiri

https://www.w3schools.com/python/default.asp

Python Math Operators

all the Python mathematical operators available for you to use in your scripts.

Operator	Description
+	Addition
-	Subtraction
*	Multiplication
/	Division
%	Modulus
//	Floor division
**	Exponentiation
&	Binary AND
|	Binary OR
^	Binary XOR
~	Binary ones complement
<<	Binary left shift
>>	Binary right shift
and	Logical AND
or	Logical OR
not	Logical NOT

Built-in Math Functions

The min() and max() functions can be used to find the lowest or highest value in an iterable:

Example

```
x = min(5, 10, 25)
y = max(5, 10, 25)

print(x)
print(y)
```

Built-in Math Functions

The abs() function returns the absolute (positive) value of the specified number:

Example

```
x = abs(-7.25)

print(x)
```

The pow(x, y) function returns the value of x to the power of y (xy).

Example

Return the value of 4 to the power of 3 (same as 4 * 4 * 4):

```
x = pow(4, 3)

print(x)
```

The Math Module

Python has also a built-in module called math, which extends the list of mathematical functions.

To use it, you must import the math module:

```
import math
```

When you have imported the math module, you can start using methods and constants of the module.

The math.sqrt() method for example, returns the square root of a number:

```
import math

x = math.sqrt(64)

print(x)
```

The Math Module

The math.ceil() method rounds a number upwards to its nearest integer, and the math.floor() method rounds a number downwards to its nearest integer, and returns the result:

Example

```
import math

x = math.ceil(1.4)
y = math.floor(1.4)

print(x) # returns 2
print(y) # returns 1
```

The Math Module

The math.pi constant, returns the value of PI (3.14...):

Example

```
import math

x = math.pi

print(x)
```

Math Constants

Constant	Description
math.e	Returns Euler's number (2.7182...)
math.inf	Returns a floating-point positive infinity
math.nan	Returns a floating-point NaN (Not a Number) value
math.pi	Returns PI (3.1415...)
math.tau	Returns tau (6.2831...)

Tugas Mandiri (teori):

1. You must import the Python math library in order to use the Python trigonometric functions. True or false? explained.
2. What data type should you use to store monetary values in Python?

Tugas Mandiri (prakt):

Tuliskan dan jelaskan script program python untuk menuliskan operasi matematika di terminal Raspberry Pi.

end