BASIC SYNTAX PYTHON

Study Case: Student Marks

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INTRODUCTION

We will learn some basic functions and their processes in Python, such as:

- Data **type**
- Getting **input** from the user
- **Display**ing output to the screen
- Comparing two values
- Combining two or more logical expressions
- Checking two or more conditions

GENERAL DATA TYPE

String (Str)

Text fully, it can be fully text, fully numbers, or the combination between text and number. String variables can be declared either by using single or double quotes. For example: “NIM”, “Nilai”, etc

Integer (Int)

Whole numbers that can be negative. For example: 0, 1, -5

Float

Numbers with decimal. For example: 40.5

And other data types, such as:

bool, list, tuple, dict, set, NoneType

INPUT FUNCTION

input() function in Python is used to get input from the user. This function reads the input as a string (text) by default.

For example:

```
nama = input("Masukkan nama mahasiswa: ")
nim = input("Masukkan NIM: ")
nilai = float(input("Masukkan nilai ujian (0-100): "))
```

If we want to get numbers, we need to **convert** their data type, for example, using **int()** or float().

PRINT FUNCTION

print() It's used to display output to the screen (console) and can be used for text, numbers, variables, calculation results,

For example:

```
print("Hasil Evaluasi:")
print(f"Mahasiswa: {nama} (NIM: {nim})")
print("Nilai Ujian:",nilai)
```

We can add an **f-string**, as shown in the image above, to **include variables or outputs with different data types**, allowing them to still be displayed.

COMPARISON OPERATORS

List of Comparison Operators

Operator	Arti	Contoh	Hasil
“==”	Equal to	5 == 5	TRUE
!=	Not equal to	5 != 3	TRUE
>	Greater than	10 > 3	TRUE
<	Less than	2 < 8	TRUE
>=	Greater than or equal to	7 >= 7	TRUE
<=	Less than or equal to	4 <= 6	TRUE

A symbol or sign used to **compare two values**. The result of this comparison is a Boolean value, either True or False

LOGICAL OPERATORS

Operator	Function
and	Returns True if **all** conditions are True
or	Returns True if **at least one** condition is True
not	Reverses the value: not True becomes False, and not False becomes True

It is used to **combine two or more logical expressions (comparisons)** and produce a Boolean value: True or False.

IF - ELIF - ELSE

The **if statement** checks whether a condition is True. If it is, the indented block of code under it will be executed.

elif (else if) Used to check another condition if the previous if condition was False. You can have multiple elif blocks.

The **else** block is executed when none of the previous conditions are True.

```
if nilai >= 85 and nilai <= 100:
  print("Kategori Nilai: A (Sangat Baik)")
elif nilai >= 75:
  print("Kategori Nilai: B (Baik)")
elif nilai >= 60:
  print("Kategori Nilai: C (Cukup)")
elif nilai >= 40:
  print("Kategori Nilai: D (Kurang)")
elif nilai >= 0:
  print("Kategori Nilai: E (Sangat Kurang)")
else :
  print("Kategori Nilai: Tidak ditemukan")
```

THANK YOU

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