

# Day 2 (26/8/25): Data Types – Identifiers and Keywords in Python

## 1. Identifiers in Python

### Definition

Identifiers are the **names** given to variables, functions, classes, or objects in a program. They help us **identify** different elements in code.

### Rules for Identifiers

1. Identifiers can contain **letters (a–z, A–Z)**, **digits (0–9)**, and the **underscore (\_)** **character**.
  - Example: name, roll\_number, age2.
2. They **cannot begin with a digit**.
  - ✗2age (invalid)
  - ✓age2 (valid)
3. Identifiers are **case-sensitive**.
  - Example: Name and name are **different identifiers**.
4. Reserved **keywords cannot be used** as identifiers.
  - ✗if = 10 (invalid, because if is a keyword).
5. No special characters allowed except underscore (\_).
  - ✗student-name
  - ✓student\_name

## 2. Keywords in Python

### Definition

Keywords are **predefined words** in Python that have **special meaning** and cannot be used as identifiers.

For example: if, else, while, class, import, etc.

### List of Python Keywords (Python 3.12+)

Some important ones are:

False, True, None,

and, or, not, if, else, elif,  
while, for, break, continue, pass,  
def, return, class, import, from, as,  
try, except, finally, raise, assert,  
in, is, global, nonlocal, lambda, yield

### 3. Differences Between Identifiers and Keywords

Feature	Identifier	Keyword
Meaning	User-defined names (variables, etc.)	Predefined reserved words
Customizable?	Yes (chosen by programmer)	No (fixed by Python)
Example	age, student_name	if, while, def

### 4. Example Program – Using Identifiers and Keywords

# Example: Identifiers and Keywords in Python

# Valid identifiers

student\_name = "Alice"

roll\_number = 25

marks = 85.5

# Using keywords in program (not as identifiers!)

if marks >= 40: # 'if' and '>=' are keywords/operators

    result = "Pass"

else:

    result = "Fail"

print("Student Name:", student\_name)

print("Roll Number:", roll\_number)

print("Marks:", marks)

print("Result:", result)

#### Output:

Student Name: Alice

Roll Number: 25

Marks: 85.5

Result: Pass