5. PYTHON – NAMING CONVENTIONS

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1. Identifier

- ✓ A name in a python program is called identifier.
- ✓ This name can be,

  - Package name
  - Module name
  - Variable name
  - Function name
  - Class name
  - Method name

- ✓ Python creator made some suggestions to the programmers regarding how to write identifiers in a program.

2. Why should we follow naming conventions?

- ✓ While writing the program if we follow the naming conventions then the written code is,

  - Easy to understand.
  - Easy to read.
  - Easy to debug.

3. Points to follow for identifiers in Python

- ✓ We need to follow few points to define an identifiers,

Point 1

- ✓ While writing an identifier we can use,
  - Alphabets, either upper case or lower case
  - Numbers from 0 to 9
  - Underscore symbol (_)

- ✓ If we are using any other symbol then we will get syntax error.

Program Name	Creating a valid identifier demo1.py
	student_id = 101 print(student_id)
Output	
	101

Program Name	Creating an invalid identifier demo2.py
	$student_id = 101 print($student_id)
Error	
	SyntaxError: invalid syntax

 # Point 2

- ✓ We can write an identifier with number but identifier should not start with digit.

Program Name	Creating a valid identifier demo3.py
	student_id123 = 101 print(student_id123)
Output	
	101

Program Name	Creating an invalid identifier demo4.py
	123tudent_id = 101 print(123tudent_id)
Error	
	SyntaxError: invalid decimal literal

 # Point 3

- ✓ Identifiers are case sensitive.

Program Name	Creating a valid identifier demo5.py
	value = 10 print(value)
Error	
	10

Program Name	Identifier is a case sensitive demo5.py
	value = 10 print(VALUE)
Error	
	NameError: name 'VALUE' is not defined

 # Point 4

- ✓ We cannot use keywords as identifiers.

Program Name	We should not use keywords to create an identifiers demo6.py
	if = 10 print(if)
Error	
	SyntaxError: invalid syntax

 # Point 5

- ✓ Spaces are not allowed in between the identifier.

Program Name	Spaces not allowed between identifier demo7.py
	student id = 101 print(student id)
Error	
	SyntaxError: invalid syntax

Examples

- ✓ 435student # invalid
- ✓ student564 # valid
- ✓ student565info # valid
- ✓ $tudent # invalid
- ✓ _student_info # valid
- ✓ class # invalid
- ✓ def # invalid

Common error

- ✓ SyntaxError: invalid syntax

4. Python identifiers table

✓ This table we can understand while studying upcoming topics.

Identifier	Conventions to follow for identifiers
1. class	✓ In python, a class name should start with upper case and remaining letters are in lower case. ✓ If name having multiple words, then every nested word should start with upper case letter. ○ Example: StudentInfo ✓ Info: This rule is applicable for classes created by users only; the in-built class names used all are in lower-case.
2. package 3. module 4. variable 5. function 6. method	✓ Names should be in lower case. ✓ If name having multiple words, then separating words with underscore (_) is good practice. ○ Example: student_id
7. Non-public instance variables	✓ Non-public instance variables should begin with underscore (_), we can say private data. ○ Example: _balance
8. constants	✓ Names should be in upper case. ✓ If name having multiple words, then separating words with underscore (_) is good practice.

	○ Example: IN_PROGRESS
9. Non-accessible entities	✓ Few variables, class constructors (topic in object oriented programming) names having two underscores symbols starting and ending ○ Example: __init__(self)

5. Comments in program

- ✓ There are two types of comments

    1. Single line comments
    2. Multi line comments

Purpose of comments

- ✓ Comments are useful to describe about the code in an easy way.
- ✓ Python ignores comments while running the program.

1. Singe line comments

- ✓ By using single line comment, we can comment only a single line.
- ✓ To comment single line, we need to use hash symbol **#**

Program Name	A program with single line comment demo8.py

	#This is Basic program in python
	print("Welcome to python programming")

output	
	Welcome to python programming

2. Multi line comments

- ✓ By using multi line comment we can comment multiple lines.
- ✓ To comment multiple lines, we need to use triple double quotes symbol.

Program Name: A program with multi line comments
demo9.py

```
"""Author Daniel
Project Python project
Location Bengaluru"""

print("Welcome to python programming")
```

output

```
Welcome to python programming
```