20 May

**Python Basic - 1**

Q.1. What are keywords in python? Using the keyword library, print all the python keywords.

Ans.1 Keywords in Python are reserved words that have special meanings and purposes in the language. They are used to define the syntax and structure of the code. You cannot use keywords as variable names or identifiers in your programs.

import keyword

all\_keywords = keyword.kwlist

print(all\_keywords)

Q.2. What are the rules to create variables in python?

Ans.2 To create variables in Python:

* Use letters, numbers, and underscores.
* Must start with a letter or underscore.
* Case-sensitive (e.g., var and Var are different).
* Cannot be a Python keyword.
* No spaces or special characters except underscore.

Q.3. What are the standards and conventions followed for the nomenclature of variables in

python to improve code readability and maintainability?

Ans.3 Use snake\_case for variable names (lowercase with underscores), choose meaningful names, avoid abbreviations, be consistent, avoid reserved words, use CamelCase for class names, use uppercase for constants, and use lowercase with underscores for module names.

Q.4. What will happen if a keyword is used as a variable name?

Ans.4 If a keyword is used as a variable name in Python, it will result in a syntax error. Keywords are reserved for specific purposes and have predefined meanings in the language. To avoid this, always choose names for your variables that are not on the list of Python keywords.

Q.5. For what purpose def keyword is used?

Ans.5 The def keyword in Python is used to define and create functions. Functions are blocks of code that perform a specific task and can be reused throughout a program. When you define a function using the def keyword, you're essentially creating a named block of code that you can call by its name whenever you need to execute that code.

Q.6. What is the operation of this special character ‘\’?

Ans.6 The special character \ is known as the escape character in many programming languages, including Python. It is used to indicate that the character immediately following it has a special meaning. It's often used for including special characters, formatting, and other purposes.

Q.7. Give an example of the following conditions:

(i) Homogeneous list

homogeneous\_list = [1, 2, 3, 4, 5]

(ii) Heterogeneous set

heterogeneous\_set = {1, "apple", 3.14, (1, 2, 3)}

(iii) Homogeneous tuple

homogeneous\_tuple = ("apple", "banana", "orange")

Q.8. Explain the mutable and immutable data types with proper explanation & examples.

Ans.8

(i) Mutable Data Types: Mutable data types are those whose values can be changed after creation. In other words, you can modify, add, or remove elements without creating a new object. Examples include lists and dictionaries.

mutable\_list = [1, 2, 3]

mutable\_list.append(4) # Modifying the existing list

(ii) Immutable Data Types: Immutable data types are those whose values cannot be changed after creation. Once you create an object of an immutable type, you cannot modify its value. Examples include integers, strings, and tuples.

immutable\_string = "hello"

new\_string = immutable\_string.upper() # Creating a new string, original remains unchanged

Q.9. Write a code to create the given structure using only for loop.

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Ans.9 for i in range(1, 6):

print("\*" \* (2 \* i - 1))

Q.10. Write a code to create the given structure using while loop.

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ANS.10 n = 9

while n >= 1:

print("|" \* n)

n -= 2