20 May

**Python Basic - 1**

Q.1. What are keywords in python? Using the keyword library, print all the python keywords.Keywords are reserved words that have a special meaning in Python. They cannot be used as variable names, function names, or any other identifier.To print all the Python keywords, you can use the keyword library. Here is an example:

Python

import keyword

for keyword in keyword.kwlist:

print(keyword)

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

There are a few rules to follow when creating variables in Python.

Variable names must start with a letter or an underscore.

Variable names cannot start with a number.

Variable names can only contain letters, numbers, and underscores.

Variable names cannot contain spaces.

Variable names are case-sensitive.

Variable names cannot be the same as keywords, reserved words, or built-in functions.

Q.3. What are the standards and conventions followed for the nomenclature of variables in python to improve code readability and maintainability?

Use descriptive variable names

Use short variable names.

Use consistent naming conventions.

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

If you use a keyword as a variable name, Python will raise a SyntaxError. This is because keywords are reserved words that have a special meaning in Python. They cannot be used as variable names, function names, or any other identifier.

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

The def keyword in Python is used to define a function

The def keyword is followed by the function name, a set of parentheses that may contain parameters, and a colon.

Ex:

def greet(name):

print("Hello, " + name + "!")

greet("Alice") # Output: Hello, Alice!

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

The special character \ has different operations in different contexts. In general, it is used to escape special characters or to represent a literal character. For example, in a string literal, \n represents a newline character. In a regular expression, \\. matches any character.

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

(i) Homogeneous list

(ii) Heterogeneous set

(iii) Homogeneous tuple

(i) Homogeneous list

list\_of\_strings = ["Hello", "World"]

(ii) Heterogeneous set

set\_of\_elements = {"Hello", 1, 3.14}

(iii) Homogeneous tuple

tuple\_of\_integers = (1, 2, 3)

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

In Python, data types can be categorized as either mutable or immutable based on whether their values can be changed after they are created.

Mutable Data Types:

Mutable data types are those whose values can be modified after they are created. When you modify a mutable object, you are actually changing its contents in-place without creating a new object. This means that any variables referencing the object will reflect the modifications.

my\_list = [1, 2, 3]

my\_list.append(4) # Modifying the list by adding an element

print(my\_list) # Output: [1, 2, 3, 4]

Immutable Data Types:

Immutable data types, on the other hand, are those whose values cannot be modified once they are created. If you want to change the value of an immutable object, you need to create a new object with the updated value. Existing variables referencing the object will remain unchanged.

my\_string = "Hello"

new\_string = my\_string + " World" # Creating a new string by concatenating

print(my\_string) # Output: "Hello"

print(new\_string) # Output: "Hello World"

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

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for i in range(5):

print('\*' \* (i + 1))

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

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i = 0

while i < 6:

print('|' \* i)

i += 1