20 May

**Python Basic - 1**

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

A: Keywords are predefined words which cannot be used as an identifiers.

import keyword

a = keyword.kwlist

print(a)

OutPut:

['False', 'None', 'True', 'and', 'as', 'assert', 'async', 'await', 'break', 'class', 'continue', 'def', 'del', 'elif', 'else', 'except', 'finally', 'for', 'from', 'global', 'if', 'import', 'in', 'is', 'lambda', 'nonlocal', 'not', 'or', 'pass', 'raise', 'return', 'try', 'while', 'with', 'yield']

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

A:

* numbers cannot be used to start a variable name.
* keywords cannot be variables
* words should be used to define a variable

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

A

* Use descriptive names: Choose meaningful and descriptive names for variables that indicate their purpose or content. This improves the readability of your code and makes it easier to understand.
* Use lowercase letters: Variable names should generally be in lowercase letters. For example, use my\_variable instead of MyVariable or MY\_VARIABLE.
* Separate words with underscores: To improve readability, separate multiple words in variable names using underscores. This convention is known as "snake\_case." For example, use first\_name instead of firstname or FirstName.
* Avoid single-character names: Unless they have a specific purpose, avoid using single-letter variable names like x, y, or i. Instead, choose more descriptive names.

Q4: What will happen if a keyword is used as a variable name?

A: it will throw syntax error as keywords should not be use as a variable.

Q5: For what purpose def keyword is used?

A: def is use to define a function. For example, def calculator. Calculator is now a user defined function.

Q6: What is the operation of this special character ‘\’?

A: It is defined as an escape character as it performs various functions like :n\ newline, t\ tab

Q7: Give an example of the following conditions:

1. Homogeneous list
2. Heterogenous set
3. Homogenous tuple

A: Homogenous list – list1 = [1,2,3,4,5]

Heterogenous set - set1 = {1, ‘aman’, ‘1.11’}

Homogenous tuple – tuple1 = (1,2,3,4,5)

Q8: Explain the mutable and immutable data types with proper explanation & examples.

A: Mutable data types are whose values can be changed in future after they are created. Example, list, set and dictionary.

Immutable data types are those whose values cannot be changed after they are created. In order to change to their value we need to create a new object. Examples are int,string,tuple

Q9: Write a code to create the given structure using only for loop.

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A: rows = 5

for i in range(rows):

a = " " \* (rows - i - 1)

b = "\*" \* (2 \* i + 1)

print(a + b)

Q10: Write a code to create the given structure using while loop.

A: rows = 5

spaces = 0

symbols = rows \* 2 - 1

while rows > 0:

print(" " \* spaces + "|" \* symbols)

spaces += 1

symbols -= 2

rows -= 1