20 May

Python Basic - 1

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

Ans:- Keywords are some predefined and reserved words in python that have special meanings. Keywords are used to define the syntax of the coding.

**import keyword**

**# printing the keywords**

**print("Python keywords are...")**

**print(keyword.kwlist**)

* 1. What are the rules to create variables in python?

Ans:- The rules to create variable in python are given below

1. A variable name must start with a letter or the underscore character.
2. A variable name cannot start with a number
3. A variable name can only contain alpha-numeric characters and underscores (A-z, 0-9, and \_ )
4. Variable names are case-sensitive (age, Age and AGE are three different variables)
   1. What are the standards and conventions followed for the nomenclature of variables in python to improve code readability and maintainability?

Ans:- Use grammatically correct variable names, the class name should start with an uppercase and must follow camelCase convention If more than two words are to be used. In the same way, a function name should be joined with an underscore, and it must be lowercase

* 1. What will happen if a keyword is used as a variable name?

Ans:- If keywords were allowed as variable names, it would be very hard to tell for the developers and the compilers whether something was a variable or a keyword. For example, what does the following mean?

if(x == 10)

Is it an if-statement, or calling a function called if?

Neither the developer nor the compiler would be able to tell.

* 1. For what purpose def keyword is used?

Ans:- The def keyword is used to create a function.

Example :-

def my\_function():  
  print("Hello function")  
  
my\_function()

* 1. What is the operation of this special character ‘\’?

Ans:-

Prefixing a special character with "\" turns it into an ordinary character.

* 1. Give an example of the following conditions:

1. Homogeneous list
2. Heterogeneous set
3. Homogeneous tuple

Ans:-

Homogeneous list countries = ["France", "Uruguay", "Germany", "Netherlands", "Ghana"]

Heterogeneous set = [1, 'hello', 3.14, True, (4, 5)]

Homogeneous tuple = ('apple', 'banana', 'orange', 'grape')

* 1. Explain the mutable and immutable data types with proper explanation & examples.

Ans:- **Mutable Data Types:** Mutable data types are those whose values can be changed after they are created. This means you can modify individual elements or attributes of these data types without creating a completely new object. Lists and dictionaries are common examples of mutable data types.

Example:-

my\_list = [1, 2, 3]

my\_list[0] = 10

print(my\_list) # Output: [10, 2, 3]

**Immutable Data Types:** Immutable data types, on the other hand, are those whose values cannot be changed once they are created. If you want to modify the value, you have to create a new object. Examples of immutable data types in Python include integers, floats, strings, and tuples.

Example:-

name = "Alice"

name = name + " Smith" # This creates a new string object with the value "Alice Smith"

print(name) # Output: Alice Smith

* 1. Write a code to create the given structure using only for loop.

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Ans:-

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:- rows = 5

spaces = 0

while rows >= 1:

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

rows -= 1

spaces += 1