20 May

**Python Basic - 1**

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

A: **Python keywords are special reserved words that have specific meanings and purposes and can't be used for anything but those specific purposes. Python keywords are different from Python's built-in functions and types. You can use the keyword module for this purpose**. **Import the module and use the function called kwlist. It will list down all the keywords used in the current version of python.**

**Import keyword**

**print (keyword.kwlist)**

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

A:

* **A variable name must start with a letter or the underscore character.**
* **A variable name cannot start with a number.**
* **A variable name can only contain alpha-numeric characters and underscores (A-z, 0-9, and \_ )**
* **Variable names are case-sensitive (age, Age and AGE are three different variables)**

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

A:

* **Document and Comment Code Properly**

### **Fix Code Issues Promptly**

### **Use One Statement of Code per Line**

### **Write Readable Code**

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

A: **Keywords are the words in programming language which have a special meaning decided the lanuage. So we cannot use them as a variable as we cannot assign any value to them. In python keywords are case sensitive so we can use true as a variable but not TRUE.**

**For example:**

**>>> none=10**

**>>> print(none)**

**10**

**>>> None=10**

**File "<stdin>", line 1**

**None=10**

**^^^^**

**SyntaxError: cannot assign to None**

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

A: **The def () keyword in python is used to define the function that users can use to built their own function.**

**Example:**

**def greet () :**

**print (“Hello World!”)**

**Here, we have created a function named greet (). It simply prints the text Hello World!.**

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

A: **In Python strings, the backslash "\" is a special character, also called the "escape" character. It is used in representing certain whitespace characters: "\t" is a tab, "\n" is a newline, and "\r" is a carriage return.**

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

(i) Homogeneous list

(ii) Heterogeneous set

(iii) Homogeneous tuple

**A: (i) Homogeneous list : A list in which all the items belong to the same data type that all the items are either integer or all float or all string. The lists Even and fruits are examples of the homogenous list.**

**Example**

**fruits=['apples','oranges','bananas','mangoes','grapes','strawberry']**

**print(fruits)**

**Output:**

**['oranges', 'bananas', 'mangoes']**

**(ii) Heterogeneous set: The items stored can be of any type numeric, string, boolean, objects, etc which makes it heterogeneous. This means that a list can have any type of data and we can iterate over this list using any type of loop. The elements stored are usually associated with an index that defines the position in the list.**

**Example of heterogeneous sets is: {‘abc’, 4, (1, 2)}**

**(iii) Homogeneous tuple: Tuples usually contain a heterogeneous sequence of elements, while lists usually contain a homogeneous sequence. Let’s see an example, that we have a list that contains different fruits. Usually the name of the fruits could be stored in a list, since they are homogeneous. Now we want to have a data structure to store how many fruit do we have for each type, this is usually where the tuples comes in, since the name of the fruit and the number are heterogeneous. Such as (‘apple’: 3) which means we have 3 apple**

**Example :**

**tuple\_1 = (1, 2, 3, 2)**

**tuple\_1**

**Output:**

**(1, 2, 3, 2)**

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

**A: Mutable data type: A mutable object can be changed after it is created**

**Examples : List, Set, Dictionary**

**Immutable data type: An immutable object cannot be changed after it is created**

**Example : Tuples**

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

\*

\*\*\*

\*\*\*\*\*

\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*

**A:**

**rows = 5**

**for i in range(rows):**

**for j in range(i+1):**

**print(“\*”, end=””)**

**print()**

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

|||||||||

|||||||

|||||

|||

|

**A:**

**row = 1**

**while row <=9:**

**col = 1**

**while col <= 10-row:**

**print('|',end='')**

**col += 1**

**print('')**

**row += 1**