1. Q1.

Keywords in Python are reserved words that have predefined meanings and cannot be used as variable names. They represent the syntax and structure of the language. To print all Python keywords, you can use the keyword library and its kwlist attribute.

import keyword

print(keyword.kwlist)

1. Q2.

The rules to create variables in Python are:

A variable name must start with a letter or underscore.

It can contain letters, digits, and underscores.

Variable names are case-sensitive.

Python keywords cannot be used as variable names.

Avoid using special characters or symbols in variable names.

1. Q3.

Standards and conventions followed for variable nomenclature in Python include:

Using lowercase letters for variable names.

Separating words in variable names with underscores (snake\_case).

Choosing meaningful and descriptive names that indicate the purpose of the variable.

Following naming conventions specific to the programming community or project if applicable.

1. Q4.

If a keyword is used as a variable name, it will raise a SyntaxError because keywords are reserved and cannot be used as identifiers for variables or other purposes.

1. Q5.

The def keyword in Python is used to define a function. It is followed by the function name and a block of code that defines the function's behavior. Functions allow us to encapsulate reusable pieces of code and perform specific tasks.

1. Q6.

The special character \ in Python is known as the escape character. It is used to escape or indicate special characters or sequences in strings. For example, \n represents a newline character, \t represents a tab character, and \" represents a double quote character within a string.

1. Q7.

Examples of the given conditions are:

* 1. Homogeneous list:

numbers = [1, 2, 3, 4, 5]

(ii) Heterogeneous set:

my\_set = {1, 'hello', True, 3.14}

(iii) Homogeneous tuple:

fruits = ('apple', 'banana', 'orange')

1. Q8.

In Python, mutable data types can be modified after creation, while immutable data types cannot be changed once created. Mutable data types include lists, dictionaries, and sets, while examples of immutable data types are strings, tuples, and numbers.

# Mutable example

my\_list = [1, 2, 3]

my\_list.append(4) # Modifying the list

# Immutable example

my\_string = "Hello"

my\_string = my\_string + " World" # Creating a new string, not modifying the original

1. Q9.

Code to create the given structure using a for loop:

for i in range(1, 6):

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

Output:

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1. Q10.

Code to create the given structure using a while loop:

n = 9

while n >= 1:

print("|" \* n)

n -= 2

Output:

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