20 May

**Python Basic - 1**

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

Answer: Keywords in Python are reserved words that cannot be used as ordinary identifiers. They are used to define the syntax and structure of the Python language.

Program:

Import keyword

print(keyword.kwlist)

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?**

Answer:

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)

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

Answer:it would be good practice during the naming of variables is to prioritize clarity and readability. Choose names that make your code self-explanatory and help others (including your future self) understand the purpose and functionality of the variables without needing to refer to additional documentation.

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

Answer:

False =20

Print(False)

Output: SyntaxError: cannot assign to False

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

The def is used for creating the user defined function in python

def greet():

print(“Hello World!”)

print(greet())

Output: Hello World!

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

Answer:

The special character \ in Python is known as the backslash. The backslash is used to escape certain special characters so that they can be included in a string as regular characters. For example, if you want to include a single quote or double quote within a string enclosed by the same type of quote, you can escape the quote using a backslash.

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

(i) Homogeneous list : [1,2,3,4,5]

(ii) Heterogeneous set : {1,2,”Vikas”,True}

(iii) Homogeneous tuple : (1,2,4)

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

Answer:

**Immutable Data Types:**

Immutable data types are those whose values cannot be modified once they are created. Any operation that appears to modify an immutable object actually creates a new object with the modified value. Examples of immutable data types in Python include:

t = (1, 2, 3)

t.append(5)

print(t) #AttributeError: 'tuple' object has no attribute 'append'

**Mutable Data Types:**

Mutable data types are those whose values can be modified after they are created. Operations can directly modify the existing object without creating a new one. Examples of mutable data types in Python include:

lst = [1, 2, 3]

lst[1] = 5 # Modifying an element in the list

lst.append(4) # Adding a new element

print(lst) # Output: [1, 5, 3, 4]

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

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row = 10

k= row-1

for i in range(1,row,2):

for j in range(k):

print(end=" ")

k -=1

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

print("\*", end="")

print("\r")

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

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**Program**:

# python3 code to print pyramid pattern using while loop

n=0;i=9

k=0

while(i>=n):

print(" " \* (k) +"|" \* i)

i-=2

k+=1