1. What are the new features added in Python 3.8 version?

Answer :

- There is a new function parameter syntax “/” which indicates that some function parameters must be specified positionally and can’t be used as keyword arguments. The addition of “/” improves the language’s consistency and allows a robust API design.
- This operator is used to assign and return a value in the same expression. This removes the need for initializing the variable upfront. The major benefit of this is it saves some lines of code. It is also known as **“The Walrus Operator”** due to its similarity to the eyes and tusks of a walrus.
- f-strings now support “=” , to make string interpolation easy. Python 3.8 allows the use of the above-discussed assignment operator and equal sign (=) inside the f-strings.
- Reversed works with a dictionary. The built-in method “reversed()” can be used for accessing the elements in the reverse order of insertion.
- ‘yield’ and ‘return’ statements do not require parentheses to return multiple values.
- In the three-argument form of pow(), when the exponent is -1, it calculates the modular multiplicative inverse of the given value.
- If you miss a comma in your code such as a = [(1, 2) (3, 4)], instead of throwing TypeError, it displays an informative Syntax warning.
- Dict comprehensions have been modified so that the key is computed first and the value second.
- The ‘csv.DictReader’ now returns instances of dictionary instead of a ‘collections.OrderedDict’.
- importlib_metadata is a new library added in the Python’s standard utility modules, that provides an API for accessing an installed package’s metadata, such as its entry points or its top-level name.

2. What is monkey patching in Python?

Answer : In Python, the term monkey patch refers to dynamic (or run-time) modifications of a class or module. In Python, we can actually change the behavior of code at module run-time. For this we use monk.

3. What is the difference between a shallow copy and deep copy?

Answer : When an object is copied using copy(), it is called shallow copy as changes made in copied object will also make corresponding changes in original object, because both the objects will be referencing same address location. When an object is copied using deepcopy(), it is called deep copy as changes made in copied object will not make corresponding changes in original object, because both the objects will not be referencing same address location.

4. What is the maximum possible length of an identifier?

Answer : Identifiers can be of any length.

5. What is generator comprehension?

Answer : A **generator comprehension** is a single-line specification for defining a generator in Python. Generator comprehension uses round bracket unlike square bracket in list comprehension. Generators don’t allocate memory for the whole list. Instead, they generate each value one by one which is why they are memory efficient.

```
input_list = [1, 2, 3, 4, 4, 5, 6, 7, 7]
output_gen = (var for var in input_list if var % 2 == 0
print("Output values using generator comprehensions:", end = ' ')
for var in output_gen:
      print(var, end = ' ')
```

Output :

```
Output values using generator comprehensions: 2 4 4 6
```