**FSDS MAY BATCH 2022(Python Assignment -15)**

**Submitted by: Shubham Tiwari**

Q1: What are the new features added in Python 3.8 version?

Ans: Some of the features which are added are as follows :

1)Assignment expressions.

There is new syntax := that assigns values to variables as part of a larger expression. It is affectionately known as “the walrus operator” due to its resemblance to the eyes and tusks of a walrus.

2) Positional-only parameters.

There is a new function parameter syntax / to indicate that some function parameters must be specified positionally and cannot be used as keyword arguments.

3) Parallel filesystem cache for compiled bytecode files.

The new PYTHONPYCACHEPREFIX setting (also available as -X pycache\_prefix) configures the implicit bytecode cache to use a separate parallel filesystem tree, rather than the default \_\_pycache\_\_ subdirectories within each source directory.

4) Debug build uses the same ABI as release build.

Python now uses the same ABI whether it’s built in release or debug mode. On Unix, when Python is built in debug mode, it is now possible to load C extensions built in release mode and C extensions built using the stable ABI.

Q2: What is monkey patching in Python?

Ans: Monkey patching in python refers to modifying or updating a piece of code or class or any module at the runtime. In simple words, we can change the behavior or working of a class/ module at the runtime without changing the whole python code. But sometimes monkey patching is considered bad practice because the definition of object does not accurately describe how the object is behaving in the code.

Q3: What is the difference between a shallow copy and deep copy?

Ans:

|  |  |
| --- | --- |
| **Shallow copy** | **Deep Copy** |
| 1)Shallow Copy stores the references of objects to the original memory address. | 1) Deep copy stores copies of the object’s value. |
| 2) Shallow Copy reflects changes made to the new/copied object in the original object. | 2) Deep copy doesn’t reflect changes made to the new/copied object in the original object. |
| 3) Shallow Copy stores the copy of the original object and points the references to the objects. | 3) Deep copy stores the copy of the original object and recursively copies the objects as well. |
| 4) Shallow copy is faster. | 4) Deep copy is comparatively slower. |

Q4: What is the maximum possible length of an identifier?

Ans: An identifier can have a maximum length of **79 characters** in Python.

Q5: What is generator comprehension?

Ans: