Assignment 1

SRN: PES2UG22EC135

1. Which of the following object does not support indexing? [1 mark]
(a) tuple
(b) list
(c) dictionary
(d) set
Answer: d

2. Which of the following variable names are INVALID in Python? [1 mark]
(a) 1 variable
(b) variable 1
(c) variable1
(d) variable#
Answer: a, d

Why is the axis parameter necessary when using the insert () and delete () functions?
Ans: delete () function is not available in python only del() is available and there is no axis in the insert () and del() function.
The insert() function takes two parameters:
● index - position where an element needs to be inserted
● element - this is the element to be inserted in the list
del() - The del keyword is used to delete objects. You can pass the variable name with the index value inside the braces.

Q2. In Python, both lists and dictionaries are mutable data structures. However, their behavior and use cases differ significantly.
Ans: (a) Elements in a list are accessed by their numerical index, which always starts from zero. This makes lists ordered collections where the position of the element matters. In contrast, dictionaries store data in key–value pairs, and elements are accessed directly using the unique key. The key can be a word, number, or any immutable type, which makes dictionaries more flexible for organizing data.
(b) Dictionaries are more efficient for certain lookups because they are built using a hash table structure. This allows them to find values directly from the key in constant time, without scanning through the whole collection. Lists, on the other hand, often require checking each element until the required one is found, which takes longer as the list grows. Therefore, for direct searching and mapping relationships, dictionaries perform better than lists.