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Course Name – Data Analytics

Assignment- Python Functions and Iterators Assignment

Github Link - https://github.com/mrkashyap222/shivam-kashyap

1. what is the difference between a function and a method in python?

a function is a block of code that works independently. a method is a function that belongs to an object or class.

2. explain the concept of function arguments and parameters in python.

parameters are variables defined in a function. arguments are values you pass to those parameters when calling the function.

3. what are the different ways to define and call a function in python?

you define a function using 'def'. you can call it by writing its name followed by parentheses, e.g., my_func().

4. what is the purpose of the 'return' statement in a python function?

it sends a value back from the function to where it was called.

5. what are iterators in python and how do they differ from iterables?

an iterable can be looped over, like a list. an iterator gives values one at a time using next().

6. explain the concept of generators in python and how they are defined.

generators are special functions that use 'yield' to return values one by one.

7. what are the advantages of using generators over regular functions?

they use less memory and handle large data efficiently.

8. what is a lambda function in python and when is it typically used?

a lambda function is a small, one-line function used for short tasks.

9. explain the purpose and usage of the 'map()' function in python.

map() applies a function to each item in a list or other iterable.

10. what is the difference between map(), reduce(), and filter() functions in python?

map() changes each element, filter() selects some elements, reduce() combines all elements into one value.

11. Using pen and paper write the internal mechanism for sum operation using reduce function on this given list: [47, 11, 42, 13]

list = [47, 11, 42, 13]
reduce(lambda x, y: x + y, list)
= 113

list = [47, 11, 42, 13]

x + y
47 + 11
58

x y
58 + 42
= 100

x y
100 + 13
= 113