Functions Solutions

Q1. What is the difference between a function and a method in Python?

. In Python, both functions and methods are used to perform specific tasks.

= Use functions when writing independent reusable code.
= Use methods when defining behaviors for objects in a class.

Q2. Explain the concept of function arguments and parameters in Python.

. In Python, parameters and arguments are key concepts used when working with functions. While they are often used interchangeably.

Q3. What are the different ways to define and call a function in Python?

. Python provides various ways to define and call functions, allowing flexibility in how we pass arguments and structure function behavior.

Q4. What is the purpose of the `return` statement in a Python function?

. The return statement controls what a function outputs, making it essential for writing efficient, reusable, and modular code.

Q5. What are iterators in Python and how do they differ from iterables?

. iterators control loops, allowing you to traverse arbitrary data containers one item at a time. Iterables, on the other hand, provide the data that you want to iterate over.

Q6. Explain the concept of generators in Python and how they are defined.

. Generators are a special type of iterator in Python that allow you to generate values lazily, meaning they produce values on demand instead of storing them all in memory. This makes them memory-efficient and useful for handling large datasets or infinite sequences.

Q7. What are the advantages of using generators over regular functions?

. Generators in Python offer several advantages over regular functions, especially when dealing with large data sets or infinite sequences.

Q8. What is a lambda function in Python and when is it typically used?

. A Lambda function in python is a small, anonymous function that's used for short term tasks.

Q9. Explain the purpose and usage of the `map()` function in Python.

. The map() function in Python applies a function to each item in an iterable, like a list or tuple. It returns a new iterable that contains the results.

Q10. What is the difference between `map()`, `reduce()`, and `filter()` functions in Python?

. All three functions - map(), filter(), and reduce() - are part of **functional programming** in Python. They help process iterables (lists, tuples, etc.) using functions.

Q11. Using pen & Paper write the internal mechanism for sum operation using reduce function on this given list:[47,11,42,13];

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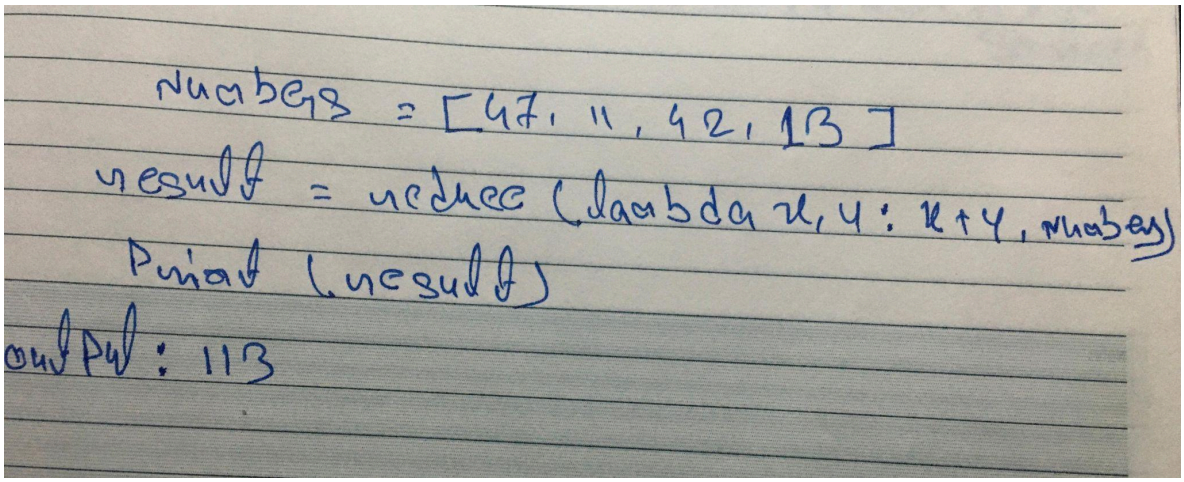

Practical Questions Solution

https://colab.research.google.com/drive/1QdtWKjY5LezUAfckEpTHvKwBGAzmVX9o#scrollTo=0gzD0aR43ZtP