

Homework Assignment: Python Basics

Part 1: Vocabulary Definitions

Define the following Python-related terms:

1. **Function:** Provide a definition for a function in Python and explain its purpose in programming.
2. **Parameter:** What is a parameter in Python, and how is it used in defining functions?
3. **Argument:** Explain the concept of an argument in the context of calling a function.
4. **Return Statement:** Define the return statement and its significance in Python functions.
5. **Conditional Statement:** What is a conditional statement, and how is it used to control program flow?
6. **List:** Define a list in Python and explain its characteristics.
7. **String:** Explain what a string is in Python and provide an example.
8. **Loop:** Define a loop and discuss its role in Python programming.
9. **Variable:** What is a variable, and how is it used to store data in Python?
10. **Dictionary:** Provide a definition for a dictionary in Python and describe its structure.

Part 2: Programming Problems

1. **Function to Calculate Average:**
Write a Python function that takes a list of numbers as input and returns the average of those numbers.
2. **Finding the Maximum:**
Define a function that takes two numbers as arguments and returns the larger of the two.
3. **Check for Palindrome:**
Create a function that checks if a given string is a palindrome (reads the same forwards and backward) and returns `True` or `False`.
4. **String Reversal:**
Write a function that takes a string as input and returns the reverse of the string.

5. Dictionary Lookup:

Create a Python dictionary with at least 5 key-value pairs. Write a function that takes a key as an argument and returns the corresponding value from the dictionary, or a default message if the key is not found.

Instructions:

- For vocabulary definitions, provide concise and clear explanations in your own words.
- For programming problems, write Python functions to solve them. Test your functions with sample data.

This assignment covers essential Python concepts, including vocabulary definitions, defining functions, and using them to solve problems. It aims to reinforce your understanding of these concepts and their practical application in Python programming.