Under the patronage of His Excellency the Minister of Education

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Third Preparatory Grade – Weekly Evaluation and Homework - Week (7)

Unit 1: Artificial Intelligence and Programming Languages

Lesson 4: (Functions with Parameters in Python)

Weekly Evaluation

First Test

Answer the following questions:

1) **What is meant by a "function" in programming? And why do programmers prefer using functions instead of writing repetitive code?**
2) **Trace the following code and state the final output printed on the screen:**

```
def add(a, b):
return a + b
result = add(4, 3)
print(result + 2)
```

Choose the correct answer from the following options.

Which keyword is used to define a function in Python?

a) **Function**
b) **define**
c) **def**
d) **func**

Second Test

Answer the following questions:

1) **Briefly explain the fundamental difference between parameters and arguments when working with functions in Python.**
2) **Is it possible to perform mathematical operations or use conditional statements (`if`) within the body of a function? Provide an illustrative example using code.**

Choose the correct answer from the following options.

What is the difference between `print` and `return` inside a function?

a) `print` only displays the value on the screen, whereas `return` returns the value so it can be used or stored in a variable.

b) `print` is faster than `return`.

c) There is no difference between them.

d) `return` only displays the value on the screen.

Third Test

Answer the following questions:

1) **What keyword is used to define a new function in Python? Also, write the general syntax for defining a function that takes two parameters?**
2) **How do functions with parameters facilitate the process error detection and correction of debugging in large programs?**

Choose the correct answer from the following options.

In the call add_numbers(3, 5), what are the values 3 and 5 called?

a)Parameters **b) Arguments** **c) Variables** **d) Constants**

Class Evaluation

Write a simple Python program containing a function named calculate_area that calculates the area of a rectangle given its length (L) and width (W) as function parameters. The function should return the resulting area (Area). Then call the function to print the area of
a rectangle with a length of 6 and a width of 2.

Note: Area of a rectangle = length × width.

Homework

Answer the following questions:

1) State two of the most important rules and requirements to consider when choosing a function name (`function_name`) in Python.
2) Trace the following code and state the final output printed on the screen:

```
def multiply(a, b):
return a * b
result = multiply(5, 2)
print(result + 5)
```

Choose the correct answer from the following options.

Which of the following statements represents the main benefit of using functions with parameters?

a) Increasing the number of lines in a program.

b) Creating only global variables.

c) Avoid code repetition, organize the program, and make it reusable.

d) Eliminating the need to use variables.

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