Python Test - Data Types, Conditionals, Loops, Functions, and More

1. Data Types

Identify the data types of the following variables:

a = 42

b = 3.14

c = "OpenAI"

d = [1, 2, 3]

e = (True, False)

f = {"name": "Megha", "age": 25}

g = {10, 20, 30}

Write the type of each variable below:

a -> _____

b -> _____

c -> _____

d -> _____

e -> _____

f -> _____

g -> _____

2. Conditional Statements

Write a program that checks if a number is even or odd and prints a message accordingly.

num = int(input("Enter a number: "))

Your code here:

3. Looping (For & While)

Write a for loop to print all numbers from 1 to 10.

Then write a while loop to print numbers from 10 down to 1.

4. Break Statement

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Write a loop that prints numbers from 1 to 10, but stops when the number is 6.

5. Continue Statement

Write a loop that prints numbers from 1 to 5 but skips number 3 using continue.

6. Indexing and Slicing

Given the string below, print:

a) First character

b) Last character

c) Characters from index 2 to 6

d) Reverse the entire string

text = "PythonProgramming"

a) _____

b) _____

c) _____

d) _____

7. Function

Write a function named `multiply` that takes two parameters and returns their product.

Then call the function with values 4 and 5.

8. Exception Handling

Write a program that takes two numbers and divides them.

Handle the case if the user enters zero as the second number.

```
try:
    a = int(input("Enter numerator: "))
    b = int(input("Enter denominator: "))
```

```
    result = a / b
    print("Result:", result)
except ZeroDivisionError:
    print("Cannot divide by zero.")
```