**Assessment 1: Data Types and Operators**

**Instructions**

Write Python code for each question.

Use comments wherever necessary.

Test your code with sample inputs.

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**Section 1: Data Types (Creation Level)**

1. Numbers

Create:

An integer variable age with value 25.

A float variable height with value 5.9.

A complex variable z with value 2 + 3j.

Print their values and types.

2. Strings

Create a string variable name with your name.

Print the first and last characters of the string.

Print the length of the string.

3. Lists

Create a list fruits with at least 5 fruit names.

Add a new fruit to the list.

Remove one fruit from the list.

Print the updated list.

4. Tuples

Create a tuple colors with at least 4 color names.

Print the second and third elements.

5. Dictionaries

Create a dictionary student with keys: "name", "age", and "grade" and fill in sample values.

Print the value of "grade".

6. Sets

Create a set unique\_numbers with at least 5 different integers.

Add a new number to the set.

Print the set.

7. Boolean

Create two boolean variables is\_sunny = True and is\_raining = False.

Print both.

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**Section 2: Operators**

1. Arithmetic Operators

Create two numbers a = 15 and b = 4.

Print the results of:

Addition, subtraction, multiplication, division, floor division, modulo, and exponentiation.

2. Comparison Operators

Using the same a and b, print the result of:

a > b, a < b, a == b, a != b.

3. Logical Operators

Using is\_sunny and is\_raining variables:

Print the result of is\_sunny and is\_raining.

Print the result of is\_sunny or is\_raining.

Print the result of not is\_raining.

4. Assignment Operators

Start with x = 10.

Use +=, -=, \*=, /=, and //=.

Print x after each operation.

5. Bitwise Operators

Using a = 5 and b = 3:

Print the results of a & b, a | b, a ^ b, a << 1, and b >> 1.