Assignment 1

Variables and DataTypes

Executable Code:

```
#  Integer Variable
age = 25
print("Age:", age)

#  Floating-Point Variable
height = 5.9
print("Height:", height)

#  String Variable
name = "Om"
print("Name:", name)

#  Boolean Variable
is_student = True
print("Is Student?", is_student)

#  List - Ordered, Mutable
grades = [90, 85, 92, 88]
print("Grades:", grades)

#  Tuple - Ordered, Immutable
coordinates = (3, 4)
print("Coordinates:", coordinates)

#  Set - Unordered, Mutable, Unique Elements
hobbies = {"reading", "traveling", "coding"}
print("Hobbies:", hobbies)

#  Dictionary - Key-Value Pairs
person = {"name": "Alice", "age": 30, "city": "New York"}
print("Person:", person)

#  None Type
result = None
print("Result:", result)

#  Type Conversion
x = 5
y = str(x)
print("x as string:", y)
```

```python
#  Input from User
user_name = input("Enter your name: ")
print("Hello,", user_name)

#  Boolean Comparison
is_adult = age >= 18
print("Is Adult?", is_adult)

#  Arithmetic Operations
num1 = 10
num2 = 3
sum_result = num1 + num2
print("Sum:", sum_result)

#  String Concatenation
greeting = "Hello"
sentence = greeting + " " + name
print("Greeting Sentence:", sentence)

#  Formatting Strings
formatted_sentence = f"{name} is {age} years old."
print("Formatted Sentence:", formatted_sentence)

#  Basic If-Else Statement
if is_adult:
    print(f"{user_name} is an adult.")
else:
    print(f"{user_name} is not an adult.")
```

Output:

Age: 25

Height: 5.9

Name: Om

Is Student? True

Grades: [90, 85, 92, 88]

Coordinates: (3, 4)

Hobbies: {'reading', 'traveling', 'coding'}

Person: {'name': 'Alice', 'age': 30, 'city': 'New York'}

Result: None

x as string: 5

Enter your name: