

1.2 Write a program to illustrate various data types & concepts of variables/Constant in Python.

Variables (dynamic typing)

```
name = "Alice" # String
age = 25 # Integer
height = 5.6 # Float
is_student = True # Boolean
subjects = ["Math", "CS"] # List
marks = (85, 90, 88) # Tuple
info = {"id": 101, "dept": "CSE"} # Dictionary
hobbies = {"reading", "coding"} # Set
```

Displaying types

```
print("Name:", name, "| Type:", type(name))
print("Age:", age, "| Type:", type(age))
print("Height:", height, "| Type:", type(height))
print("Is Student:", is_student, "| Type:", type(is_student))
print("Subjects:", subjects, "| Type:", type(subjects))
print("Marks:", marks, "| Type:", type(marks))
print("Info:", info, "| Type:", type(info))
print("Hobbies:", hobbies, "| Type:", type(hobbies))
```

Constants (by convention in UPPERCASE)

```
PI = 3.14159
GRAVITY = 9.81
print("Constant PI:", PI)
print("Constant GRAVITY:", GRAVITY)
```

Output:

```
Name: Alice | Type: <class 'str'>
Age: 25 | Type: <class 'int'>
Height: 5.6 | Type: <class 'float'>
Is Student: True | Type: <class 'bool'>
Subjects: ['Math', 'CS'] | Type: <class 'list'>
Marks: (85, 90, 88) | Type: <class 'tuple'>
Info: {'id': 101, 'dept': 'CSE'} | Type: <class 'dict'>
Hobbies: {'reading', 'coding'} | Type: <class 'set'>
Constant PI: 3.14159
Constant GRAVITY: 9.81
```