

# Concept: Introduction to Python and Variables

Python is an interpreted, high-level programming language designed to be simple and readable. It uses indentation instead of braces and supports multiple paradigms such as procedural, object-oriented, and functional programming.

Variables in Python are used to store data values. Unlike many languages, Python does not require explicit type declarations. A variable is created when a value is assigned to a name.

Variable naming rules: Names must begin with a letter or underscore, cannot contain spaces, and are case sensitive. For example, 'studentName' and 'StudentName' are two different variables.

Python supports dynamic typing, meaning the same variable can hold different types of data during program execution.

Use comments (#) to describe your code. Always use meaningful variable names for clarity.

Best practices include keeping code readable, using snake\_case for variable names, and limiting the use of global variables.

```
x = 10
name = 'Aisha'
gpa = 3.8
print(f'My name is {name}, GPA is {gpa}')
```

```
price = 25.5
price = price + 4.5
print('Updated price:', price)
```