

## **Variable declaration**

- What is variable?
  - It is a container for data values that can be manipulated within code without requiring the declaration of a particular type.

Example: **The variable is x the value is 5**

- Fundamentals of Python Programming
  - Python is a *high-level interpreted programming language that is easy to read and understand.*
  - It is compatible with object-oriented and procedural programming paradigms.
  - Python does *not use curly brackets for defining code blocks because indentation is used instead.*
  - It has a comprehensive standard library and a large community, making it versatile and widely used.
- Rules in Declaring a Variable in Python
  - Variable names must start with a letter (**a-z, A-Z or an underscore (\_)**).
  - The remaining characters in the variable name can include **letters, numbers, and underscores**.
  - Variable names are case-sensitive (**count and Count are different variables**).
  - Python has reserved words that cannot be used as variable names (**keywords like if, else, etc.**).
- Keywords in Python
  - Keywords are a group of reserved nouns in Python that *have certain meanings and cannot be used as variable names*. Some examples of Python keywords are **def, class, import, if, else, while, for, True, False, and None, among others**.
- Rules for local and global variables in Python
  - Local variables have a local scope and are defined *inside a function*. They are available just for *that particular function*.
  - Global variables have a global scope and are defined *outside of functions*. It signifies that a variable is *global and is used to alter it within a function*.
- Operators
  - Arithmetic operators include +, -, \*, /, percent, // (floor division), and \*\* (exponentiation).
  - Comparison operators: ==, !=, <, >, <=, >=.
  - Logical operators: and, or, not.
  - Assignment operators include: =, +=, -=, \*=, /=, %=, //=, and \*\*=.
  - Membership Operators: in or not in.
  - Identity operators include "is" and "not."