

Python Basics: Comments, Keywords, and Variables

What is a Comment?

A comment in Python is a piece of text ignored by the interpreter. It is used to explain code and make it easier to understand. Comments do not affect the execution of the program.

Types of Comments:

1. **Single-line Comment:** Begins with # and is used for short explanations.

```
# This is a single-line comment  
  
print("Hello World")
```

2. **Multi-line Comment:** Written using triple single quotes (') or triple double quotes (""").

```
'''This is a  
multi-line comment'''  
  
print("Python")
```

What is a Keyword?

Keywords are reserved words in Python that have predefined meanings and cannot be used as identifiers (like variable names).

Examples: if, else, while, for, def, return, class, import, True, False, None

What is a Variable?

A variable is a name that refers to a value stored in memory. It allows us to store and manipulate data in a program.

Rules for Naming Variables:

1. A variable name must start with a letter or underscore _.
2. It cannot start with a number.
3. It can only contain letters, numbers, and underscores.
4. Variable names are case-sensitive (age, Age, and AGE are different).
5. Reserved keywords cannot be used as variable names.

Examples:

```
name = "Gaurav"    # string variable  
  
age = 20            # integer variable
```

```
pi = 3.14      # float variable
```

```
is_student = True  # boolean variable
```

Summary

- **Comments** help us document and explain code.
- **Keywords** are special reserved words with predefined meaning.
- **Variables** store data and follow specific naming rules.