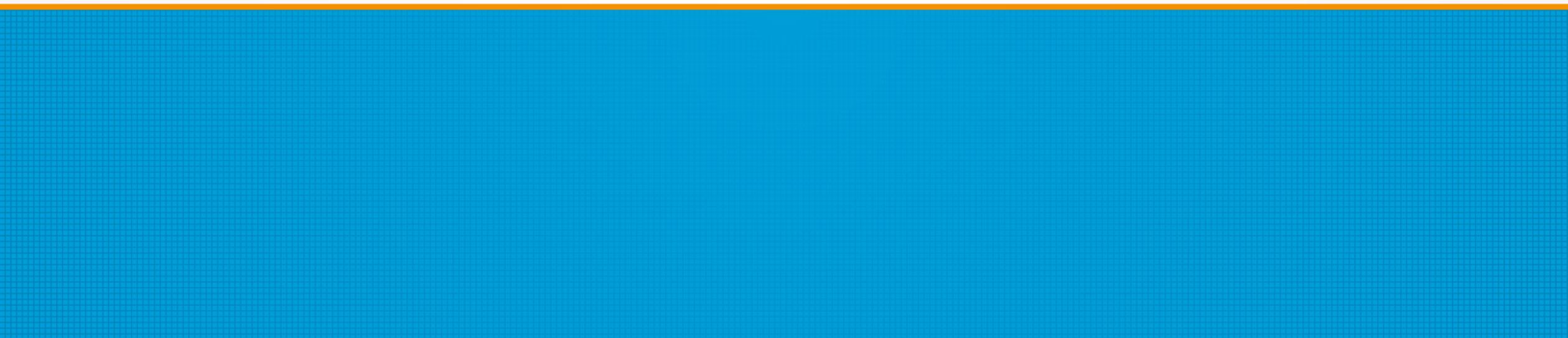


Running Python Programs



Python Statements

- Python Statements In general, the interpreter reads and executes the statements line by line i.e sequentially. Though, there are some statements that can alter this behaviour like conditional statements.
- Mostly, python statements are written in such a format that one statement is only written in a single line. The interpreter considers the 'new line character' as the terminator of one instruction. But, writing multiple statements per line is also possible that you can find below. Example-
- `print('Hello World')`

Comments in Python

- Writing comments in the code are very important and they help in code readability and also tell more about the code. It helps you to write details against a statement or a chunk of code. Interpreter ignores the comments and does not count them in commands. In this section, we'll learn how to write comments in Python.
- Symbols used for writing comments include Hash (#) or Triple Double Quotation marks(“””). Hash is used in writing single line comments that do not span multiple lines. Triple Quotation Marks are used to write multiple line comments. Three triple quotation marks to start the comment and again three quotation marks to end the comment.
- Consider the following examples:
 - # Example 2
 - """ This example will demonstrate
 - multiple comments """

Structure of Python Program

- Many times it is required to construct a block of more than one statements. For example there are usually multiple statements that are part of the definition of a function. There can be one or more statements in a looping construct.
- Different programming languages use different techniques to define the scope and extent of a block of statements in constructs like class, function, conditional and loop. In C, C++, C# or Java, statements inside curly brackets { and } are treated as a block.
- Python uses uniform indentation to denote a block of statements. When a block is to be started, type the colon symbol (:) and press Enter. Any Python-aware editor (like IDLE) goes to the next line leaving an additional whitespace (called indent). Subsequent statements in the block follow the same level of indent. In order to signal the end of a block, the whitespace is de-dented by pressing the backspace key. If your editor is not configured for Python, you may have to ensure that the statements in a block have the same indentation level by pressing the spacebar or Tab key. The Python interpreter will throw an error if the indentation level in the block is not same.

Whitespaces as Indentation

- Python's syntax is quite easy, but still you have to take some care in writing the code. Indentation is used in writing python codes. Whitespaces before a statement have significant role and are used in indentation. Whitespace before a statement can have a different meaning. Let's try an example-
- `print('hello')` # Correct
- `print('hi')` # This will generate an error
- Leading whitespaces are used to determine the grouping of the statements like in loops or control structures etc.
Example-
- `x=10`
- `while(x != 0):`
- `if(x > 5):` # Line 1
- `print('x > 5')` # Line 2
- `else:` # Line 3
- `print('x < 5')` # Line 4
- `x -= 2` # Line 5

Using Python as a Calculator

- The interpreter acts as a simple calculator: you can type an expression at it and it will write the value. Expression syntax is straightforward: the operators +, -, * and /.

Python - Shell (Interpreter)

- Python is an interpreter language. It means it executes the code line by line. Python provides a Python Shell (also known as Python Interactive Shell) which is used to execute a single Python command and get the result.
- Python Shell waits for the input command from the user. As soon as the user enters the command, it executes it and displays the result.
- To open the Python Shell on Windows, open the command prompt, write python and press enter.
- As you can see, a Python Prompt comprising of three Greater Than symbols (>>>) appears. Now, you can enter a single statement and get the result. For example, enter a simple expression like `3 + 2`, press enter and it will display the result in the next line

Execute Python Script

- As you have seen above, Python Shell executes a single statement. To execute multiple statements, create a Python file with extension `.py`, and write Python scripts (multiple statements).
- For example, enter the following statement in a text editor such as Notepad.
- `print ("Hello World")`
- `print ("This is Python Script.")`
- Save it as `myPythonScript.py`, navigate command prompt to the folder where you have saved this file and execute the `python myPythonScript.py` command, as shown below.
- Thus, you can execute Python expressions and commands using Python Shell.

Thank You