What is Scripting?
SCRIPT is light weight programming. (memory)
OR
SCRIPT is loosely/weakly typed programming. (Data types declaration)
OR
SCRIPT is Simple & Easy to Learn (Less Lines Of Code)

Why Scripting?
Scripting Languages are becoming more popular due to the emergence of web-based applications.

Types of Scripting Languages:
Scripting Languages are classified into the following two types:
1. Client Side Scripting Languages
The script which is running within the browser is called as client side scripting.
Example:
1. HTML/HTML5 2. CSS/CSS3 3. JavaScript
4. DHTML 5. TypeScript 6. ActionScript

Server Side Scripting Languages
The Script which is running within the web server is called as server side scripting.
Example:
PYTHON=>Gunicorn "Green Unicorn", WSGI (WebServerGatewayInterface), Tornado
ASP ==>IIS (Internet Information Services)
JSP ==>Tomcat/Sun Java System Web Server
PHP ==>Apache
NodeJS ==> Any Server Side JavaScript (SSJS)

Programming
It is a kind of Logic implementation to solve client business requirements. This solution can provide in two ways:
1. Programming Languages, C, C++, JAVA, C#...!!
1. More Lines of Code 2. More Time taking
3. More Errors 4. Less Qualtiy
5. Less Productvity

2. Scritping Languages, JavaScript, PYTHON, Ruby, PERL.!
1. Less Lines of Code 2. Less Time Taking
3. Less Errors 4. More Qualtiy
5. More Productvity

Difference between SLs & PLs
1. Only Interpreted based (Read Line by Line)
2. Implicit Declaration of DataTypes(No Declaration)
3. Easily Integrated with other Technologies

Programming Languages:
1. Compiler,Interpreted,both based
2. Explicit Declaration of data types(Must Declare)
3. Difficult to Integrate with Other Technologies

SourceCode:
Source code is the language or string of words, numbers, letters and

symbols that a computer programmer uses. Code written by a programmer in a high-level language and readable by people but not computers.

Compiler:
Compiler is software that translates source code written in a high-level language into a set of machine-language instructions. Compilers are very large programs, with error-checking and other abilities.

UseCase:
Compiler define some rules those are called syntaxes in the programming. It never check any logic, for example a+b area if you write a-b it produce output.

Machine Code:
Machine language, or machine code, is a low-level language comprised of binary digits.

Output:
It is nothing but result, what a programmer expected..!

Interpreter:
It translates just one statement of the program at a time into machine code. It get executed the program line by line. If any error in second line it never move to third line. Here no machine code, it get executes directly. The process occured internally as follows:

Compiler => Converting
Virtual Machine==> Mapping Library files as per syntax

Types of programming Language Paradigms:
There are two types of Programming Language Paradigms:
1. Imperative Paradigm: Statements that change a programs's state.
1. Procedural Programming Paradigm
It is based on the concept of using procedures. Example: C, Pascal

2. Object-oriented Programming Paradigm
It is based on the concept of "objects",
Example: C++, JAVA

Declarative Paradigm: A style of building the structures and elements of programs
1. Functional Programming Paradigm
It is the process of building software by composing pure functions.
Example: LISP (List Processing)

2. Logical Programming Paradigm:
It is largely based on formal logic Example: PROLOG (Programming in Logic)

What is Python?
Python is a multi-paradigm Programming Language invented by Mr.GUIDO VAN ROSSUM, Named based on Monty Python's Flying Circus. It was broadcasted in BBC from 1969 to 1974.
OR
WriteLess, Create More, Run Every Where..!!

PYTHON VERSIONS:

Python 1.0 ==> 1994
Python 2.0 ==> 2000
Python 3.0 ==> Py3K 2008

PYTHON Features:
1) Easy to Learn and Use
2) Expressive Language
3) Interpreted Language
4) Cross-platform Language
5) Free and Open Source (GPL)
6) Object-Oriented Language
7) Extensible
8) Large Standard Library
9) GUI Programming Support
10) Integrated

Technology & Its Purpose:
1. C lang. => Embedded Systems
2. C++ Lang. => Graphics & Gaming Implementation
3. JAVA Lang. => Web & Gaming Development
4. .NET => Console & Windows programming
5. PHP => Web Programming
6. JavaScript => Client Side Validations
7. PYTHON => Complex data Processing & General Purpose Language.

Why Python is General Language?
PYTHON is used to develop the following software Apps:
1) WebApps=>Django, Pyramid, Flask, CherryPY..!
2) DesktopGUIApps=>TKinter,wxWidgets,Kivy,pyqt
3) SoftwareDevelopment=>BuildControl & Testing
4) Scientific &Numeric=>SciPy,Pandas, NumPy!
5) Business Apps=>Tryton, Oodo
6) Console Based Apps =>IPython
7) Audio/Video Apps =>TimPlayer, cplay
8) 3D CAD Apps =>Fandango
9) Enterprise Apps =>OpenErp,Tryton,Picalo
10) Apps for Images =>VPython, Gogh, imgSeek

Python Installation Process in Windows
1. Goto https://www.python.org/downloads/
2. Download the latest version for Windows(3.9.0)
3. Double click on that .exe file
4. Select Install for all users, click on NEXT Button
5. Finally click on Finish button.

After successful Installation You will find:IDLE
(Integrated Development & Learning Environment)