PYTHON (FAST TRACK)
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NAME: SATHEESH GUPTA
20 YEARS
C,C++,DS AND ALG
FULL STACK JAVA
FULL STACK PYTHON

Course Timinings : 11:00am:1:30pm (MON-SAT)
Duration : 40 sessions

PYTHON   FULL STACK PYTHON (WEB DEVELOPER)
 1.PYTHON   1. PYTHON
 2.PYTHON FOR DATASCIENCE   2. PYTHON FOR DATASCIENCE
                                       (NUMPY,PANDAS,MATPLOTLIB)
                          3. UI (HTML,JAVASCRIPT,CSS,BOOTSTRAP)
                          4. DJANGO,RESTAPI
                                 5. DATABASES(MYSQL,MONOGODB)
                                 6. TOOLS (GITHUB,DOCKER,..)

AI
DS
WEBDEVELOPMENT
TESTING
WEBSCRAPING
BA/DA
DATA ENG
CLOUD
DEVEOPS

INTERVIEWS
==========
CODING (MAANG)
    LEET CODE
    HACKER RANK
    CODE CHEF
    GEEKS FOR GEEKS
 TIME COMPLEX
 SPACE COMPLEX
FAQ'S
POC'S

CAPSTONE PROJECT
500+ PROGRAMS 500

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CORE PYTHON:
1. INTRODUCTION TO PROGRAMMING LANGUAGES
2. INTRODUCTION TO PYTHON
3. LANGUAGE FUNDAMENTALS
5. CONTROL STATEMENTS
6. DATA STRUCTURES OR COLLECTIONS
7. FUNCTIONS
8. MODULES
9. PACKAGES

ADV PYTHON

10. OBJECT ORIENTED PROGRAMMING(OOP)
11. EXCEPTION HANDLING
12. REGULAR EXPRESSIONS
13. OPERATING SYSTEM MODULE
14. DATETIME AND CALENDAR
15. PYTHON DATABASE COMMUNICATION
16. FILES
17. GARBAGE COLLECTION
18. GUI PROGRAMMING USING TKINTER
19. NETOWKRING SOCKET MODULE

PYTHON FOR DATASCIENCE
20. NUMPY
21. PANDAS
22. MATPLOTLIB
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NOTES WILL BE UPLOADED IN GOOGLE CLASSROOM

email: pythonbygupta@gmail.com
telegram: codewithsatishgupta
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                      INTRODUCTION TO PROGRAMMING LANGUAGES
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Content
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what is language?

language is a source of communication
language acts as meditor between user and computer
langauge provides set instructions executed by computer to perform specific operation
language is a software, which provides set of instructions to develop other softwares

types of programming languages
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programming languages are classified into 2 categories

1. low level programming languages
2. high level programming languages

low level programming language
==============================

the languages which understand by computer are called low level programming langauges
1. machine language
2. assembly language

machine language
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machine language is called binary language
machine langauge instructions are in 0's and 1's
machine language in machine dependent, these instructions changes from one machine to another machine.

advantage of machine language
=============================

1. not required translator
2. only a language understand by machine
3. efficient

disadvantage

============

1. not easy to understand by programmers

assembly language

=================

assembly language is also low level langauge but instructions are not given in 0's and 1's.
instruction in assembly language is given in the form nemonics(verbs)

machine language	assembly language
10101100	MOVE
11110000	LOAD

what is assembler?
assembler is translator used by assembly langauge to convert isntrutions of assembly langauge
into machine langauge.

advantage

=========

1. easy to understand compare with machine langauge

disadvantage

============

1. required translator

8086 machine langauge ===> 8086 assembly language
8088 machine langauge ==> 8088 assembly langauge

low level langauges are non protable or machine dependent.

High Level Programming Languages

All high level programming languages are in simple English
High level languages are portable. Portability allows developing and
running applications on various system or platforms.
Example: C,C++,Java,C#.Net, Python

What is translator?

Translator is software, which translates or converts instructions of one
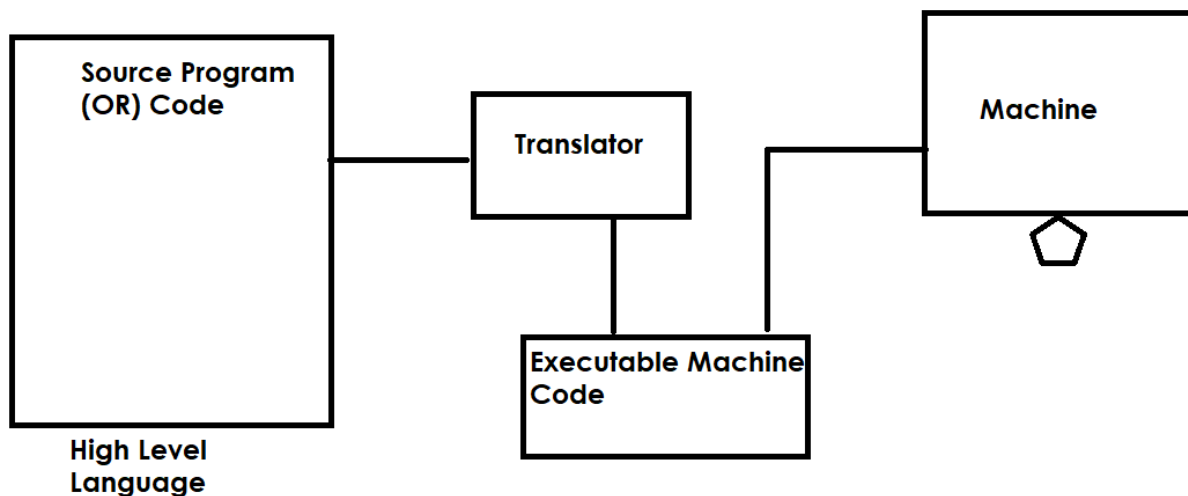language to other language

Types of translators

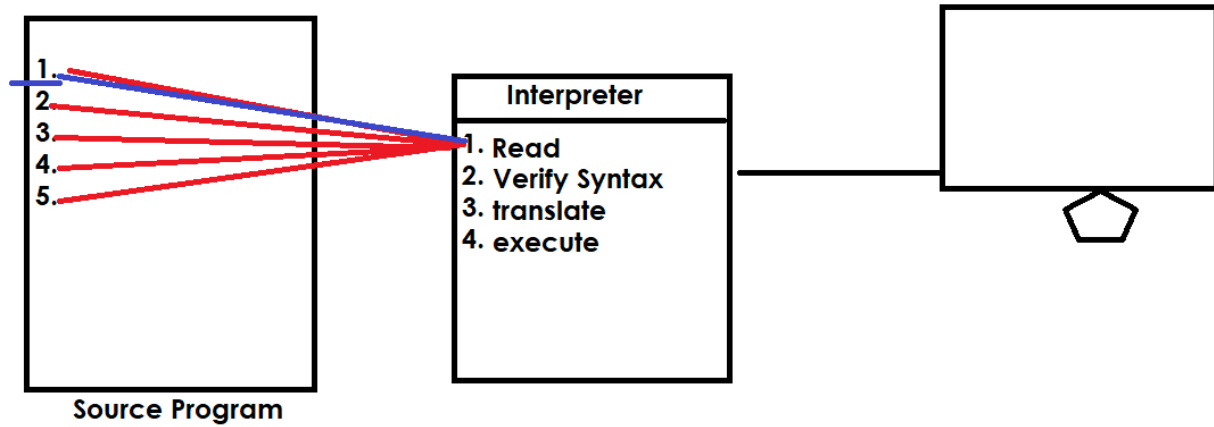1. Interpreter
2. Compiler

What is program?

A program set of instructions executed by computer
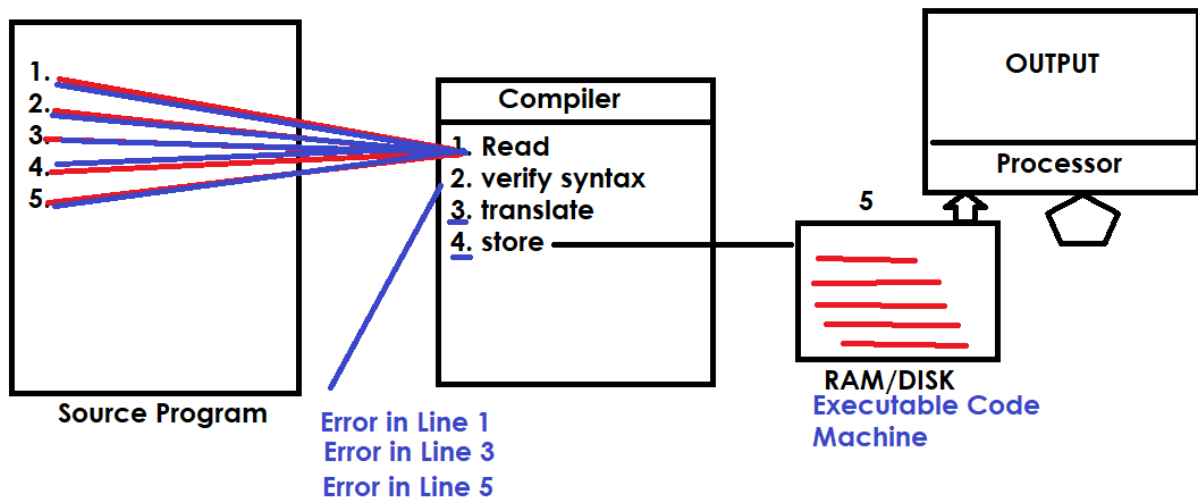A program is file, it contains set of instructions.

What is interpreter?

Interpreter is a translator which translates and executes instructions
line by line

Source Program

Interpreter
1. Read
2. Verify Syntax
3. translate
4. execute

Interpreter stops translating if there is an error in one line.
Interpreter shows only one error

Compiler
Compiler is translator which translate whole program and execute

Source Program

Compiler
1. Read
2. verify syntax
3. translate
4. store

Error in Line 1
Error in Line 3
Error in Line 5

OUTPUT

Processor

RAM/DISK
Executable Code
Machine

What is difference between compiler and interpreter?

Interpreter	Compiler
Interpreter translates and executes instructions line by line	Compiler translates whole program and execute

Interpreter stops translating and executing if there is an error in one line	Compiler shows all the errors exists within program
Interpreter does not store translated code	Compiler stores translated code, it does not required to translate source code every time before execution

Scripting Languages

Scripting language is one type of programming language but used for writing scripts.
Scripting languages are embedded within another language or software's.

What is script?
A script is program executed within another program.

A programming language can have the features of scripting languages

Example: java script, php, perl, …

Programming paradigm
A programming paradigm defines set of rules and regulation for writing code or programs.

1. POP (Procedural Oriented Programming)
2. MOP (Modular Oriented Programming)
3. FOP (Functional Oriented Programming)
4. OOP (Object Oriented Programming)

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Introduction to Python

1. Applications of Python
2. What is python?
3. Python History
4. Python Features
5. Python Versions
6. Python Software
7. Working with Python (modes)

Applications of Python

In real time or software companies uses python for developing which type of software's or applications

In real time or in software companies develop software using language with libraries or frameworks

What is library?

A library is predefined program with pre defined functionality.
Library provides various functions for developing different types of applications

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