Day-1 https://youtu.be/0RdZ-i5tjVwDay-2
https://youtu.be/XuD_tHMqDbI

Telegram: codewithsatishgupta
Mail-ID : pythonbygupta@gmail.com

Free and Open Source
Python software is free to download
www.python.org

What is Source Program or Code?
A program written in high level language is called source program. This source program is understand by programmer.

To translate source program into binary program or executable program, programming language uses translators (compiler/interpreter).

What is Open Source?
Python software source code is given to public.
If the source code is given public,
   1. Develop new Python languages
   2. Integrate with existing technologies
   3. Develop new frameworks

Large Standard Libraries
Python provide large number of libraries.
A library is predefined program, with predefined functionality.
Library makes it application development easy or Less Coding.

www.pypi.org

Python package index.

Python libraries are two forms
   1. Modules → Python program/file
   2. Packages → A folder which contains python files/program.
      A package is collection of programs or files.

Dynamic
Programming languages are two types

1. Statically typed languages
2. Dynamically typed languages

C, C++ and Java are called statically typed programming languages.

In statically typed programming languages type checking is done during compiling of program. Type of variable must be defined before compiling of program. Type is fixed; it does not change in complete program.

Python is dynamically typed programming language, in this language type is checked during runtime or type of variable is defined based on value. Type of variable is dynamic.

Platform Independent
Programming languages are two types.
1. Platform dependent languages
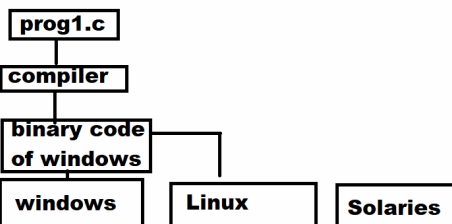2. Platform independent languages

Platform
Platform is software which provides good environment for development and execution of programs or applications.
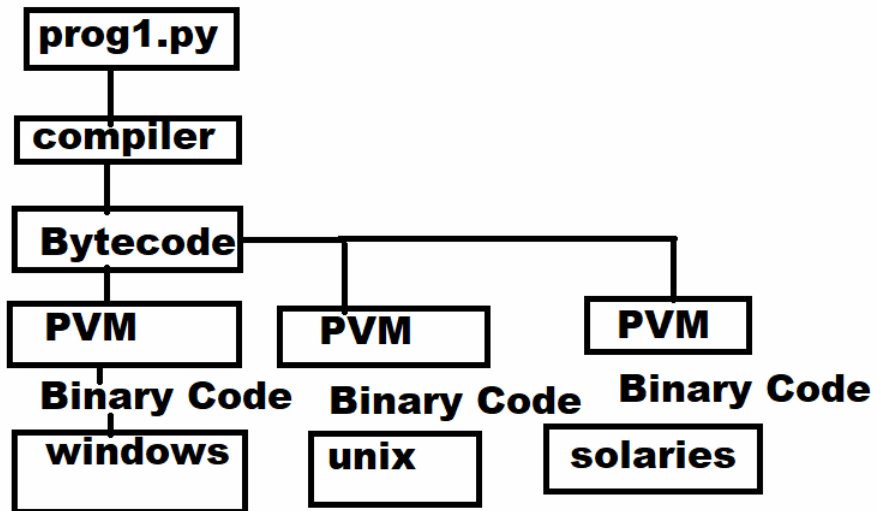Operating system is called platform.

Platform dependent language
C,C++ are called platform dependent languages.
In platform dependent languages the development environment and execution environment must be same.

Platform independent language
In platform independent languages the development environment and execution environment may not same.

```
┌─────────┐
│ prog1.py│
└────┬────┘
     │
┌────┴────┐
│ compiler│
└────┬────┘
     │
┌────┴────┐
│Bytecode │──────────────┬──────────────┐
└────┬────┘              │              │
     │                   │              │
┌────┴────┐         ┌────┴────┐    ┌────┴────┐
│  PVM    │         │  PVM    │    │  PVM    │
└────┬────┘         └────┬────┘    └────┬────┘
Binary Code        Binary Code    Binary Code
┌────┴────┐         ┌────┴────┐    ┌────┴────┐
│ windows │         │ unix    │    │ solaries│
└─────────┘         └─────────┘    └─────────┘
```

What is byte code?
Compiled code of python source program is called bytecode.
Byte code is a platform independent code.
Byte code is understand by PVM (Python Virtual Machine)

What is PVM?
PVM stands for Python Virtual machine.
It is platform provided by Python to run python applications.
PVM translates byte code into executable machine code.

CORA → Compile Once Run Any Where
WORA → Write Once Run Any Where

Mon –Sat