

DAY-3

1. what is python and why is it called an interpreted language?

A. python was created by Guido Van Rossum in the late 1980's and officially Released in 1991. It emphasizes code readability with a clean and easy-to-understand syntax.

why is python called an interpreted language?

Because python code is executed line by line by an interpreter not compiled into machine code beforehand like c or java.

2. what are the key features of python that make it popular for beginners and professionals?

A. python is one of the most popular programming languages in the world. both for beginners and professionals. because of a combination of simplicity, flexibility and power.

1. Easy to learn and Read

2. Interpreted language

3. Dynamically Typed

4. High-level language

5. large standard library

6. cross-platform

7. versatile

8. object-oriented

9. integration capabilities.

3. what is the difference between python 2 and python 3?

<u>Feature</u>	<u>python 2</u>	<u>python 3</u>
Release year	2000	2008
print statement	print "Hello" (print is a statement)	print("Hello") (print is a function)
Division Behavior	$5/2 = 2$ (integer division)	$5/2 = 2.5$ (true division)
unicode support	strings are ASCII by default; use u"text" for unicode	All strings are unicode by default.
input function	raw_input() for strings, input() for eval	only input() (returns string always)
print without parentheses	Allowed (print "Hello")	Not allowed (print ("Hello") seq/used)

4. what are python's applications in real-world projects.

<u>Field</u>	<u>use/Example</u>
1. web development	used with Django, flask to build websites
2. Data science	used for data analysis and AI (Numpy, pandas, tensorflow)

Automation/
scripting

Automates repetitive
tasks like file handling
and testing

Game & App
Development

used with pygame, Tkinter
for games and GUI apps

web scraping
and cyber-
security

collects website data
and builds security
tools.

5. what is pep 8 and why is it important in
python programming

what is pep 8

PEP 8 stands for python Enhancement Proposal

It is the official style guide for writing
clean, readable, and consistent python code.

it gives rules and best practices about

- * Naming conventions
- * Indentation
- * Line length
- * spacing
- * comments
- * code structure.

PEP 8 important

PEP 8 is important because it helps programmers write clean, readable, and consistent python code, making it easier to understand, maintain and share with others.

6. who developed python and in which year was it released.

A. python was developed by Guido van Rossum in the year 1991.

7. what do you mean by "dynamically typed" in python?

A. dynamically typed means that you don't need to declare the data type of a variable when creating it - python automatically decides the type at runtime based on the value assigned.

8. what is the difference b/w a compiler and an interpreter, and which does python use?

compiler

Translates the entire program at once into Machine code

faster after compilation

shows all errors after full compilation

create a separate executable file

C, C++

interpreter

Translates and executes code line by line

slower (executes one line at a time)

stop at the first error found.

Does not create an executable file.

python, javascript