

## → Applications of Python:-

### \* Web Development:-

- Used to build websites
- ex:- Instagram backend build using python.

### \* Data Science & Analytics:-

- Used to analyze data, find patterns, and make decisions.
- ex:- Companies use python to understand sales trends.

### \* Machine learning & AI:-

- Used to train models that predict, classify or generate things.
- ex:- Chatgpt, face detection, recommendation system.

### \* Automation / Scripting:-

- Helps to automate boring tasks.
- ex:- Automatically sending emails, organizing files, renaming photos.

### \* Game development:-

- Used to create simple games
- ex:- Snake game, racing gaming prototypes using python.

\* Mobile App development:-

- Build mobile apps using frameworks like kivy.
- ex: Simple Calculator

\* Desktop Application development:-

- Used to make applications for windows / Mac.
- ex: Notepad -type apps, calculator

\* Cyber Security & Ethical Hacking:-

- Security tools and scanners are built using python
- ex: Password Testing, network scanning tools.

\* Internet of Things (IoT):-

- Used to control sensors and devices.
- ex: Smart home automation, robot movements.

\* Backend for Apps:-

- Python handles user data, login, payments etc.,
- ex: Backend of apps like Dropbox.

→ COMMENTS in python:-

- \* Comments are lines that python doesnot execute
- \* They are used to explain the code to Humans
- \* Helpful for readability.

Types of COMMENTS:-

-line

① Single <sup>↑</sup> Comment

\* Starts with #

\* Anything after # is ignored by python

ex:- `print("Hello")` # This line prints Hello  
↳ Comment

### ⑤ Multi-line Comment:-

- \* written using triple quotes `'''` `'''` & `"""` `"""`
- \* Used to write longer notes.

ex:- `print("Welcome")`  
`"""`

This is a multi-line comment,  
used to explain larger parts of code.  
`"""`

### → KEYWORDS in python:-

- \* Keywords are special reserved words in python.
- \* You cannot use them as variable names.
- \* They have a fixed meaning in python.

examples of python Keywords:-

- ① `if` - Condition
- ② `else` - otherwise
- ③ `for` - Loop over item
- ④ `while` - loop until condition become false.
- ⑤ `def` - To create a function
- ⑥ `class` - To create a class
- ⑦ `return` - send value from function
- ⑧ `True/False` - Boolean Values
- ⑨ `None` - No Value
- ⑩ `and, or, not` - logical operators
- ⑪ `import` - import Modules

ex-1-

```
if True:
```

```
    print("Condition is True")
```

```
def greet():
```

```
    return "Hello"
```

```
print(greet())
```

Here, if - Keyword

def - Keyword

return, & true also Keyword

- \* They define rules and structure of python.
- \* Without them python code donot work.
- \* Grammar for python.