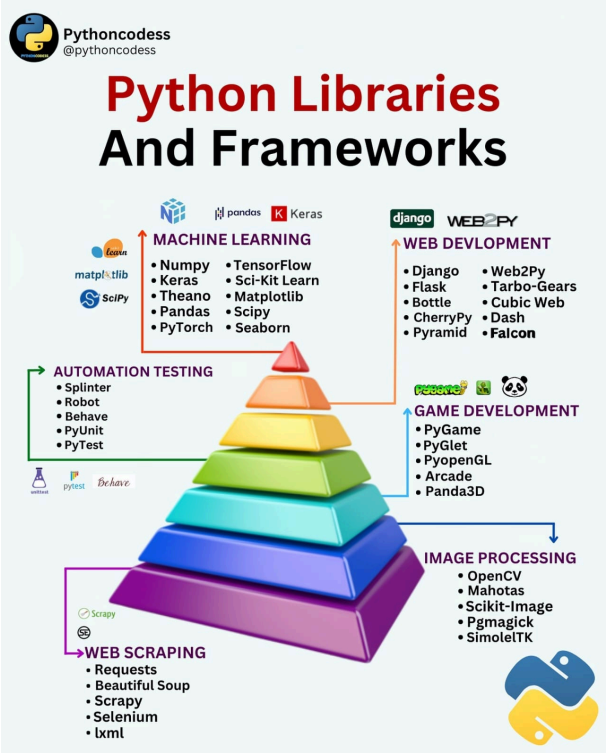
What is Python?

Python is a high =>level, interpreted programming language that is widely used for various purposes such as web development, scientific computing, data analysis, artificial intelligence, and more.



Features of Python:

1. Easy to Learn: Python has a simple syntax and is relatively easy to learn, making it a great language for beginners.
2. Versatile: Python can be used for web development, data analysis, machine learning, automation, and more.
3. High =>Level Language: Python abstracts away low =>level details, allowing you to focus on the logic of your program.
4. Interpreted Language: Python code is executed line by line, making it easy to write and test code.
5. Large Community: Python has a vast and active community, ensuring there are many resources available for learning and troubleshooting.

Applications of Python:

1. Web Development: Frameworks like Django and Flask make it easy to build web applications.
2. Data Analysis: Libraries like Pandas and NumPy make it easy to work with data.
3. Machine Learning: Libraries like TensorFlow and scikit =>learn make it easy to build machine learning models.

4. Automation: Python can be used to automate tasks, such as data entry or file management.
5. Scientific Computing: Python is widely used in scientific computing for tasks like data analysis and simulations.

Why Learn Python?

1. Job Prospects: Python is a highly sought =>after skill in the job market.
2. Easy to Learn: Python is a great language for beginners.
3. Versatile: Python can be used for a wide range of applications.
4. Large Community: There are many resources available for learning and troubleshooting.

Day 1 what i learnt in coding is

Line =>by =>Line Breakdown of the Python Code

Line 1:

source code

```
print("Hello world!")
```

* This line prints the message "Hello world!" to the console. It ' s a common starting point for new Python programs.

Lines 2 =>15:

These lines are comments. Comments are text that the Python interpreter ignores. They 're used to explain the code to humans.

Lines 16 =>22:

source code

```
x = 3
y = 4.0
A = "Abhi, I am programmer"
p, i, z = "Pipe", "Pepsi", "Mazaa"
print(x)
print(y)
```

```
print(A)
```

* Lines 16 =>18
: Create variables 'x', 'y', and 'A' and assign values to them.
  => 'x' is assigned the integer value 3.
  => 'y' is assigned the floating =>point value 4.0.
  => 'A' is assigned the string (text) "Abhi, I am programmer".
* Lines 19 =>22: Print the values of the variables 'x', 'y', and 'A' to the console.

Lines 23 =>31:

source code
```
print(type(x))  # Output: <class 'int'>
print(type(y))  # Output: <class 'float'>
print(type(A))  # Output: <class 'str'>
```

* These lines print the data types of the variables 'x', 'y', and 'A'.
  => 'x' is an integer.
  => 'y' is a float (floating =>point number).
  => 'A' is a string.

Lines 32 =>40:

source code
```
B = 143
C = 14.3
D = 1j
E = ["i", "am", "hacker", "baby"]
F = ("god", "must", "crazy")
G = range(6)
h = {"name": "bhasha", "age": 47}
I = frozenset({"apple", "and", "newton"})
j = True
```

* These lines create variables and assign various data types to them:
  => 'B', 'C' are integers.

=> ' D ' is a complex number.
=> ' E ' is a list (ordered collection of items).
=> ' F ' is a tuple (immutable ordered collection of items).
=> ' G ' is a range (sequence of numbers).
=> ' h ' is a dictionary (key =>value pairs).
=> ' I ' is a frozen set (immutable collection).
=> ' j ' is a boolean (True or False).

Lines 41 =>57:

source code

```
print(A, B, C, D, E, F, G, h, I, j)
print("Variable\tValue\tData Type")
print("A\t", A, "\t", type(A))
# ...similar lines for B, C, D, E, F, G, h, I, j
```

* These lines print the values of all the variables and their corresponding data types in a table format.
=> The first ' print ' statement prints all the variables in a single line.
=> The subsequent lines print the table header and each variable with its value and data type.