**Day 2 task : Standard Modules in python**  **Guttapalli Bindu**

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**What is Module in python ?**

A **module** in Python is a file that contains **Python code** , it can include **functions, variables, and classes**.

**Why use modules?**

* To organize code better.
* To reuse code across multiple programs.
* To keep programs clean and readable.

**Types of Modules:**

1. **Built-in Modules**
   * Already available in Python.
   * Example: math, random, datetime.
2. **User-defined Modules**
   * Created by the programmer (like your own .py file).
   * Example: A file filename.py with your functions.
3. **Third-party Modules**
   * Installed using pip.
   * Example: numpy, pandas, flask.

**Examples of Built – in Modules :**

1. math – Math functions : import math

print(math.factorial(5))

2. datetime : import datetime

now = datetime.datetime.now()

3.random : import random

print(random.randint(1, 100))

randint - generate a random integer number between a and b (both inclusive).

4.counter : module used to count the frequency of elements in a list, string, or any iterable.

Eg : from collections import Counter

word = "banana"

count = Counter(word)

print(count)

# Output: Counter({'a': 3, 'n': 2, 'b': 1})

**Examples of Third Party Modules :**

1.Numpy – Numerical Computations (array creation and manipulation , matrix )

2.Pandas – Data Analysis

3.Matplotlib – plotting graphs

4.Flask – Web development