



MY LEARNING JOURNEY IN PYTHON PROGRAMMING (SEMESTER 1)

TITLE SLIDE

COURSE OVERVIEW

PYTHON BASICS

FUNCTIONS

FILE HANDLING

PACKAGES AND MODULES

EXCEPTION HANDLING

OBJECT-ORIENTED PROGRAMMING

PROJECT IDEAS

KEY LEARNINGS

What I Learned – Python Programming

Semester 1 | M.Sc. Big Data Analytics

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COURSE OVERVIEW

- Learn to write Python programs and functions
- Work with files, packages, and exceptions
- Explore object-oriented programming (OOP)
- Practical applications in data science
- Use Python for automation and scripting

PYTHON BASICS

- Data Types: int, float, str, list, tuple, dict
- Control Statements: if, else, elif
- Loops: for, while
- Type casting and string formatting
- Input/Output operations

FUNCTIONS

- Defining and calling functions
- Parameters: positional, keyword, default
- Return values
- Lambda (anonymous) functions
- Function scope and recursion

FILE HANDLING

- Open, read, write, close files
- File modes: r, w, a, r+
- Reading line-by-line or full file
- Writing logs or data files
- Working with directories

PACKAGES AND MODULES

- What are packages and modules?
- Importing built-in & custom modules
- Using pip to install external packages
- Popular Python libraries: math, random, os
- Examples: numpy, pandas (optional intro)

EXCEPTION HANDLING

- Try, except, else, finally
- Catching specific exceptions
- Using 'raise' to trigger custom errors
- Creating user-defined exceptions

OBJECT-ORIENTED PROGRAMMING

- Class, Object, Constructor
- Inheritance, Method Overriding
- Encapsulation and Polymorphism
- `__init__()`, self keyword
- Real-world OOP use cases

PROJECT IDEAS

1. Student Marks Analyzer using file handling
2. Library Management System using OOP
3. Expense Tracker using Functions + File I/O
4. Simple Calculator using Tkinter (GUI)
5. Python Web Scraper using requests + BeautifulSoup

KEY LEARNINGS

- Built a strong foundation in Python programming
- Learned to handle files and exceptions
- Applied object-oriented programming in real-world projects
- Ready to transition into Python for data science

Thank You

- Questions?
- Let's connect: [LinkedIn](#) | [GitHub](#) | [Email](#)