Day 2 – 17 June 2025 (Tuesday):

Python Basics – Syntax and Data Types

The second day of the internship marked the beginning of our **technical learning journey** with a detailed introduction to **Python programming**. The session started with an overview of Python's structure and syntax, emphasizing its simplicity and readability, which makes it one of the most widely used programming languages in the field of Artificial Intelligence. We learned about how Python scripts are written and executed, focusing on indentation, comments, and the importance of proper syntax.

- we explored **variables and data types** in Python, understanding how data is stored, processed, and manipulated in a program.
- The mentor introduced different data types such as **integers, floats, strings, lists, tuples, sets, and dictionaries**, explaining their unique characteristics and use cases. Through several short coding examples, we practiced creating and modifying these data types, performing arithmetic and logical operations, and handling user input and output using `input()` and `print()` functions.
- We also learned how Python's dynamic typing system allows flexibility in assigning and reassigning values
- how data types directly influence the logic and performance of a program.
- The practical session included hands-on exercises where we wrote small programs to perform simple operations and display formatted outputs.
- This day laid a strong foundation for the rest of the training, as mastering these basics is crucial for building AI-based applications later on.
- **Learning Outcome:**
  Refreshed the fundamentals of Python programming and gained clarity on syntax, indentation, variables, and core data types. Understood how different data types interact within a program and how they influence logical flow and computational efficiency.