Day 02

Topic Covered: Control Structures in R

Summary:

Today's session focused on control structures in R, which are essential for making decisions and performing repeated operations in programming. We explored **if** and **if-else if** statements to handle conditional logic, and for and while loops to automate repetitive tasks.

We also learned about break and next statements, which help control loop execution — either stopping it early or skipping certain iterations. Understanding these concepts is crucial in data analytics, for tasks like filtering datasets, processing data row by row, or applying conditions to clean and transform data efficiently.

New Concepts Learned:

- **If condition**: Execute code when a condition is true
- **If-else if condition:** Handle multiple conditional branches
- **For loop:** Iterate over a sequence of values
- **While loop:** Repeat actions while a condition holds true
- **Break statement:** Stop a loop prematurely
- **Next statement:** Skip the current iteration in a loop

Activity:

- Practiced writing if and if-else if conditions for different scenarios
- Implemented for loops to iterate over sequences of numbers
- Used while loops to perform repeated operations
- Applied break to stop loops early and next to skip certain iterations

- Discussed how these structures can be used in data analytics workflows, like filtering rows or iterating through datasets conditionally

Challenges Faced:

Differentiating between if-else if and multiple if statements, and avoiding infinite loops with while. Understanding when to use **break** and **next** effectively was also a bit tricky.

Key Takeaway:

Control structures are the backbone of decision-making and iteration in R. Mastering them is key for data manipulation, automation, and efficient data analytics.