

## Week 5 Overview: While Loop

Total Lectures Duration: 6 hours

Practical exercise: 20 tasks/problems have been solved

### **Main Topics Covered:**

**Introduction to While Loop:** Understanding the basic structure and significance of the while loop in programming. This structure is critical for executing a block of code repetitively as long as a particular condition remains true.

**Breaking the While Cycle with 'break':** This lecture dove deep into the break statement. It is a control statement that allows for an early exit out of the loop, halting its execution immediately when encountered.

**Using 'continue':** The continue function was explored next. This allows for the loop to skip the remainder of the current iteration and move directly to the next iteration, effectively "continuing" the loop from the top.

**The 'While True' Construct:** This topic delved into the idea of an infinite loop. Using while True means the loop will run indefinitely, as the condition always remains true. This is often used in situations where the program should keep running until an external factor or input stops it. Learning how to use this construct safely and efficiently is crucial, as well as how to **break** the loop.

### **Summary:**

Week 5 was a deep dive into the realm of the **while loop**, which is a fundamental construct in most programming languages. From understanding its basic structure to effectively controlling its execution using **break** and **continue**, I gained a robust grasp over its usage. By solving a variety of problems, ranging from basic to advanced, the practical applications of the while loop were extensively explored. The infinite loop concept, using while True, added another dimension to the learning, emphasising the importance of loop control to avoid unintended endless loops.

