

# LOOPS

A loop statement allows us to execute a statement or group of statements several number (multiple) of times.

In computer programming, a loop is a sequence of instructions that is repeated until a certain condition is reached.

A loop consists of the three following

1. A loop control variable and to be initialized
2. An expression/condition on loop control variable to be evaluated as true or false
3. A counter on loop control variable to be incremented or decremented called **Counter**

- An operation is done, such as getting an item of data and changing it, and then some condition is checked such as whether a counter has reached a prescribed number.
- **Counter not Reached:** If the counter has not reached the desired number, the next instruction in the sequence returns to the first instruction in the sequence and repeat it.
- **Counter reached:** If the condition has been reached, the next instruction “falls through” to the next sequential instruction or branches outside the loop

**There are mainly two types of loops:**

1. **Entry Controlled loops:** In this type of loops the test condition is tested before entering the loop body. **for** loop and **while** loop are entry controlled loops.
2. **Exit Controlled Loops:** In this type of loops the test condition is tested or evaluated at the end of loop body. Therefore, the loop body will execute at least once, irrespective of whether the test condition is true or false. **do – while** loop is exit controlled loop.

