**Comparison of Loops in C**

In C, loops are used to **repeat a block of code** multiple times.  
The main loops are: while, for, and do-while.

| **Feature** | **while** | **for** | **do-while** |
| --- | --- | --- | --- |
| Condition checked | Before loop | Before loop | After loop |
| Minimum executions | 0 | 0 | 1 |
| Initialization | Outside loop | Inside loop | Usually outside loop |
| Update | Inside loop | Part of loop | Inside loop |
| Use case | Unknown iterations | Known iterations | Execute at least once |

**while Loop**

**Syntax:**

while (condition) {

// code to execute repeatedly

}

**Characteristics:**

* **Condition is checked first**.
* Code inside the loop executes **only if the condition is true**.
* May execute **0 or more times**.
* Ideal when **the number of iterations is not known in advance**.