LOOPS IN C

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Abstract- **You may encounter situations, when a block of code needs to be executed several number of times. In general, statements are executed sequentially: The first statement in a function is executed first, followed by the second, and so on. Programming languages provide various control structures that allow for more complicated execution paths. A loop statement allows us to execute a statement or group of statements multiple times. A loop statement allows us to execute a statement or group of statements multiple times. Given below is the general form of a loop statement in most of the programming languages − C programming language provides the following types of loops to handle looping requirements.**

Index Terms— **loops ,statements, programming languages, function.**

I. INTRODUCTION

Loops are used to repeat a block of code
Types of loops:-

1. for loop
    The most commonly used loop is for loop.
    SYNTAX :-

```
for ( variable initialization; condition; variable update )
 {
  Code to execute while the condition is true
}
```

2. while loop
    A while loop in C programming repeatedly executes a target statement as long as a given condition is true.

    SYNTAX:-

```
while(condition)
 {
   statement(s);
}
```

3. do-while loop
    A do...while loop is similar to a while loop, except the fact that it is guaranteed to execute at least one time.

SYNTAX:-

```
do{
  statement(s);
} while( condition );
```

II.   LOOP TYPE AND DESCRIPTION

S.N.	Loop Type & Description
1	**while loop** Repeats a statement or group of statements while a given condition is true. It tests the condition before executing the loop body.
2	**for loop** Executes a sequence of statements multiple times and abbreviates the code that manages the loop variable.
3	**do...while loop** It is more like a while statement, except that it tests the condition at the end of the loop body.
4	**nested loops** You can use one or more loops inside any other while, for, or do..while loop.

III.   LOOP CONTROL STATEMENTS

S.N.	Control Statement & Description
1	**break statement** Terminates the **loop** or **switch** statement and transfers execution to the statement immediately following the loop or switch.
2	**continue statement** Causes the loop to skip the remainder of its body and immediately retest its condition prior to reiterating.
3	**goto statement** Transfers control to the labeled statement.