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# ITERATIVE STATEMENTS

• An Iteration Statement, or loop repeatedly executes a statement, known as the loop body until the controlling expression is false(0).

## (i) While (Statement)

⇒ Entry Control loop

: The while statement evaluates a control expression before each execution of the loop body

★ while (Expression) = Syntax

Example. n=0; → Variable Initialisation

while (n < 10) → Condition

{ a[n] = n;

n++; → Variable Increment

}

## (ii) Do (Do-while) (Statement)

⇒ The Loop body is executed at least once.

: The Do statement evaluates the Control expression after each execution of the loop body. The do statement has the following syntax.

★ do = Syntax

Statement

while (expression);

## (iii) For (Statement)

⇒ Open ended loop

: The for loop evaluates three expressions and executes the loop body until the second controlling expression evaluates to false(0).

for(Expression-1(Opt); Expression-2(Opt); Expression-3(Opt))

### JUMPING OUT OF LOOPS

- (i) Break Statement :- When Break statement is encountered inside a loop, the loop is immediately exited and process continues.
- (ii) Continue Statement :- It causes the control to go directly to the test condition and then continues the loop process.



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# Conditional and Branching Statements

## (i) The If Statement

⇒ This statement helps us in the selection of one out of two alternative courses of action

Syntax: `if (Expression)`  
`{ Statement Sequence }`

## (ii) The If-Else Statement

⇒ It can be observed that if statement does nothing when the expression is false

Syntax: `if (Expression)`  
`{ Statement Sequence }`  
`else { Statement Sequence }`

## (iii) Nested if Statements

⇒ It is always legal in C programming to nest if-else statements, which means you can use one if or else if statement inside another if or else if statement

Syntax: `if (boolean-expression 1) {`  
`executes if 1 is true`  
`if (boolean-expression 2) {`  
`executes if 2 is true`  
`}`  
`}`

## (iv) Switch Statements

(Selection of one of many alternatives)

If, it is required in a program to select one of several different courses of action then the switch statement of C can be used

Switch ( expression )

```
{ Case Constant 1 ;  
    statement ; break ;  
  Case Constant 2 ;  
    statement ; break ;  
  default ; statement ; }
```