

LOOP

In JavaScript, a loop is a programming construct that allows you to execute a block of code repeatedly until a specified condition is met.

e.g.

```
<script type="text/javascript">
  var i;
  for (i = 1; i <= 5; i++) {
    document.write("Hello World!<br>");
  }
</script>
```

FOR LOOP:

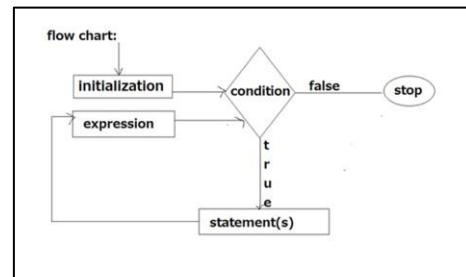
It repeats a block of code a specified number of times.

Syntax:

```
for ( initialization; condition ; expression )
{
    Task;
}
```

e.g.

```
<script type="text/javascript">
  var i;
  for (i = 1; i <= 5; i++) {
    document.write("Hello World!<br>");
  }
</script>
```



WHILE LOOP

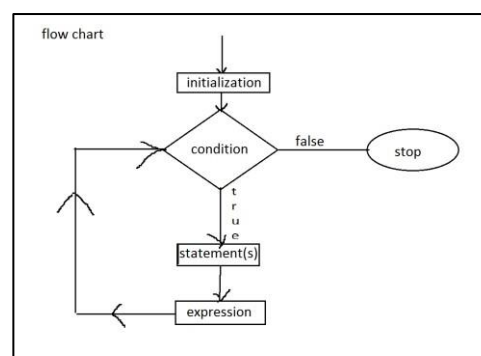
It repeats a block of code as long as a specified condition is true.

Syntax

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

e.g.

```
<script type = "text/javascript">
  var i;
  i = 1
  while(i <= 5)
  {
    document.write("Target<br>");
    i++ ;
  }
</script>
```



DO...WHILE LOOP

It's similar to the while loop but the condition is evaluated after executing the block of code. This ensures that the block of code executes at least once.

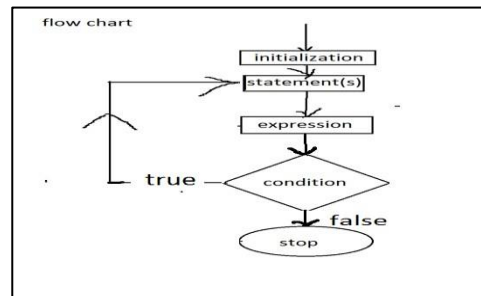
Syntax

```
do
{
    statement(s);
```

```
} while ( condition );
```

e.g.

```
main()
{
    int i;
    i = 1;
    do
    {
        document.write("Target<br>");
        i = i + 1;
    } while ( i <= 5 );
}
```



Difference between while & do while

Serial no.	while	do ... while
1.	Entry Control Loop	Exit Control Loop
2.	It executes 0 to n times	It executes 1 to n times means It executes at least one time
3	In while loop; is not work as part of syntax.	must be ended with ;
4	If we do not use curly braces then only nearest one statement get execute repeatedly. <pre>while(i++ <= 5) document.write("The Target
"); document.write("Institue
"); i++ ;</pre>	If we do not use curly braces and place more than one statements then error will be generate <pre>do document.write("The Target
"); document.write("Institue
"); i++ ; while(i++ <= 5);</pre>
*5.	This basically special form of loop that mainly use to read data/record from the database or file	This basically special form of loop that mainly use to insert data/record from the database or file

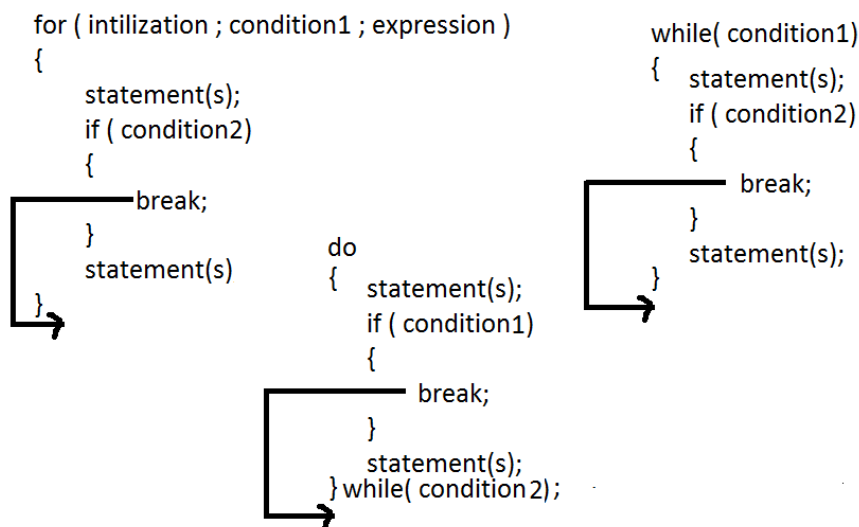
THE BREAK STATEMENT:

As we know that once a loop get start then it only stops when respective condition get false but some time programmer does not want to wait for condition false then the programmer terminate the loop using break statement Means **to terminate loop instantly**.

e.g.

```
<script>
  const number = parseInt(prompt("Enter a positive number: "));
  let flag = true;
  for (let i = 2; i <= number - 1 ; i++) {
    if (number % i == 0) {
      flag = false;
      break;
    }
  }
  if ( i == number) {
    document.write(` ${number} is a prime number`);
  } else {
    document.write ( ` ${number} is a not prime number`);
  }
</script>
```

Different form of break:



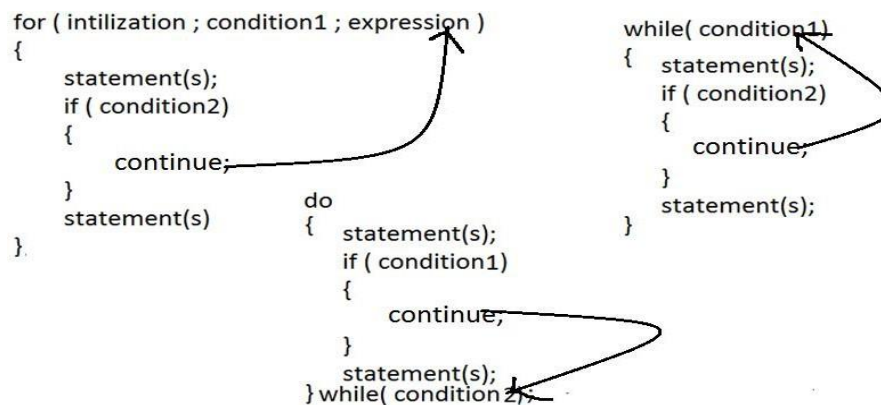
THE CONTINUE STATEMENT:

The continue statement allow us to instantly start next iteration of loop by skipping rest statement of current iteration.

e.g.

```
main()
{
    int i , n , sum = 0 ;
    for ( i = 1 ; i <= 10 ; i++ )
    {
        printf("\nEnter number");
        scanf("%d",&n);
        if ( n < 0 )
        {
            continue;
        }
        sum = sum + n;
    }
    printf("\nsum = %d", sum);
}
```

Different forms of continue



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