PHP – Loop Types

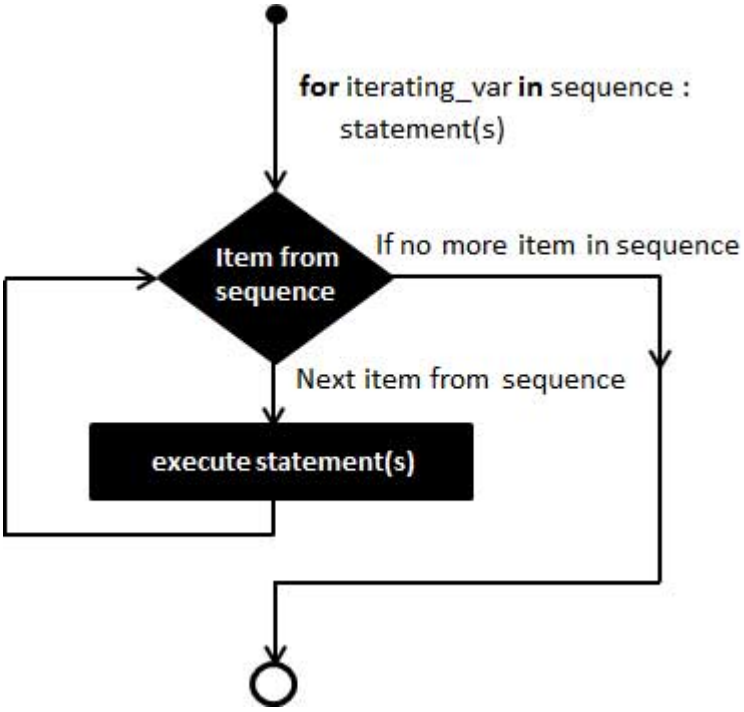
Loops in PHP are used to execute the same block of code a specified number of times. PHP supports following four loop types.

- **for** – Loops through a block of code a specified number of times.
- **foreach** – Loops through a block of code for each element in an array.
- **while** – Loops through a block of code if and as long as a specified condition is true.
- **do-while** – Loops through a block of code once, and then repeats the loop as long as a special condition is true.

In addition, we will also explain how the **continue** and **break** statements are used in PHP to control the execution of loops.

PHP for Loop

The for statement is used when you know how many times you want to execute a statement or a block of statements.



Syntax

```
for (initialization; condition; increment){
   code to be executed;
}
```

The initializer is used to set the start value for the counter of the number of loop iterations. A variable may be declared here for this purpose and it is traditional to name it $i.

Example

The following example makes five iterations and changes the assigned value of two variables on each pass of the loop −

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```
<?php
   $a = 0;
   $b = 0;

   for( $i = 0; $i<5; $i++ ) {
      $a += 10;
      $b += 5;
   }

   echo ("At the end of the loop a = $a and b = $b" );
?>
```

It will produce the following **output** −

```
At the end of the loop a = 50 and b = 25
```

PHP foreach Loop

The foreach statement is used to loop through arrays. For each pass the value of the current array element is assigned to $value and the array pointer is moved by one and in the next pass next element will be processed.

Syntax

```
foreach (array as value) {
   code to be executed;
```

```
}
```

Example

Try out following example to list out the values of an array.

```
<?php
   $array = array( 1, 2, 3, 4, 5);

   foreach( $array as $value ) {
      echo "Value is $value \n";
   }
?>
```

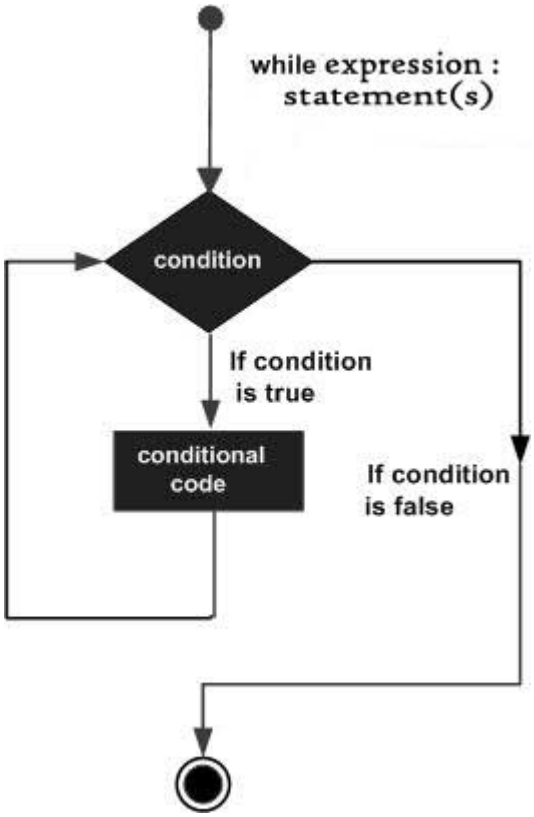
It will produce the following **output** –

```
Value is 1
Value is 2
Value is 3
Value is 4
Value is 5
```


PHP while Loop

The while statement will execute a block of code if and as long as a test expression is true.

If the test expression is true then the code block will be executed. After the code has executed the test expression will again be evaluated and the loop will continue until the test expression is found to be false.



Syntax

```
while (condition) {
   code to be executed;
}
```

Example

This example decrements a variable value on each iteration of the loop and the counter increments until it reaches 10 when the evaluation is false and the loop ends.

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```
<?php
   $i = 0;
   $num = 50;

   while($i < 10) {
      $num--;
      $i++;
   }
```

```
   echo ("Loop stopped at i = $i and num = $num" );
?>
```

It will produce the following **output** –

```
Loop stopped at i = 10 and num = 40
```

PHP do-while Loop

The do-while statement will execute a block of code at least once - it then will repeat the loop as long as a condition is true.

Syntax

```
do {
   code to be executed;
}
while (condition);
```

Example

The following example will increment the value of i at least once, and it will continue incrementing the variable i as long as it has a value of less than 10 –

</> Open Compiler

```
<?php
   $i = 0;
   $num = 0;

   do {
      $i++;
   }

   while( $i < 10 );
   echo ("Loop stopped at i = $i" );
?>
```

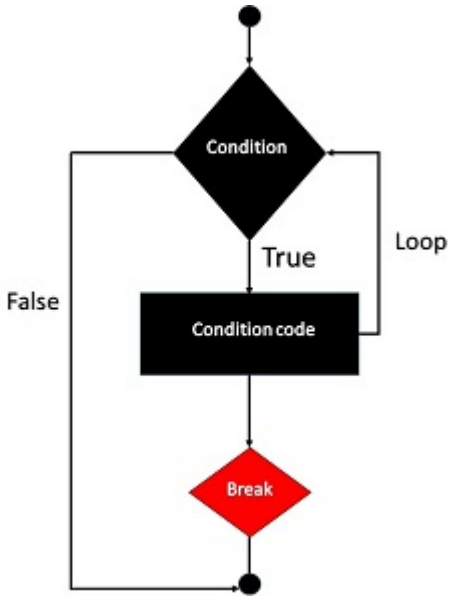
It will produce the following **output** –

```
Loop stopped at i = 10
```

PHP break Statement

The PHP **break** keyword is used to terminate the execution of a loop prematurely.

The **break** statement is situated inside the statement block. It gives you full control and whenever you want to exit from the loop you can come out. After coming out of a loop immediate statement to the loop will be executed.



Example

In the following example condition test becomes true when the counter value reaches 3 and loop terminates.

</> Open Compiler

```
<?php
   $i = 0;

   while( $i < 10) {
      $i++;
      if( $i == 3 )break;
   }
   echo ("Loop stopped at i = $i" );
?>
```

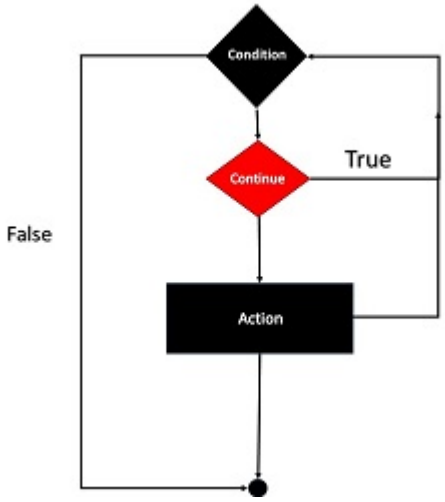
It will produce the following **output** –

```
Loop stopped at i = 3
```

PHP continue Statement

The PHP **continue** keyword is used to halt the current iteration of a loop but it does not terminate the loop.

Just like the **break** statement the **continue** statement is situated inside the statement block containing the code that the loop executes, preceded by a conditional test. For the pass encountering **continue** statement, rest of the loop code is skipped and next pass starts.



Example

In the following example loop prints the value of array but for which condition becomes true it just skip the code and next value is printed.

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```php
<?php
   $array = array( 1, 2, 3, 4, 5);

   foreach( $array as $value ) {
      if( $value == 3 )continue;
      echo "Value is $value \n";
   }
?>
```

It will produce the following **output** –

```
Value is 1
Value is 2
Value is 4
Value is 5
```