

Dart Loops

Dart Loop is used to run a block of code repetitively for a given number of times or until matches the specified condition. Loops are essential tools for any programming language. It is used to iterate the Dart iterable such as list, map, etc. and perform operations for multiple times. A loop can have two parts - a body of the loop and control statements. The main objective of the loop is to run the code multiple times. Dart supports the following type of loops.

- Dart for loop
- Dart for...in loop
- Dart while loop
- Dart do-while loop

We describe a brief introduction to the dart loops as follows.

Dart for loop

The for loop is used when we know how many times a block of code will execute. It is quite same as the C for loop. The syntax is given below.

Syntax -

```
for(Initialization; condition; incr/decr) {  
  // loop body  
}
```

The loop iteration starts from the initial value. It executes only once.

The condition is a test-expression and it is checked after each iteration. The for loop will execute until false returned by the given condition.

The incr/decr is the counter to increase or decrease the value.

Let's understand the following example.

Example -

```
void main()  
{
```

```

int num = 1;
for(num; num<=10; num++)    //for loop to print 1-10 numbers
{
    print(num);    //to print the number
}

```

Dart for... in Loop

The for...in loop is slightly different from the for loop. It only takes dart object or expression as an iterator and iterates the element one at a time. The value of the element is bound to var, which is and valid and available for the loop body. The loop will execute until no element left in the iterator. The syntax is given below.

Syntax -

```

for (var in expression) {
    //statement(s)
}

```

Example :

```

void main()
{
    var list1 = [10,20,30,40,50];
    for(var i in list1)    //for..in loop to print list element
    {
        print(i);    //to print the number
    }
}

```

Dart while loop

The while loop executes a block of code until the given expression is false. It is more beneficial when we don't know the number of execution. The syntax is given below.

Syntax:

```
while(condition) {  
    // loop body  
}
```

Let's understand the following example.

Example -

```
void main()  
{  
    var a = 1;  
    var maxnum = 10;  
    while(a<maxnum){    // it will print until the expression return false  
  
        print(a);  
        a = a+1;        // increase value 1 after each iteration  
    }  
}
```

Dart do...while Loop

The do...while loop is similar to the while loop but only difference is that, it executes the loop statement and then check the given condition. The syntax is given below.

Syntax -

```
do {  
    // loop body  
} while(condition);
```

Example -

```
void main()
{
    var a = 1;
    var maxnum = 10;
do
    {
        print("The value is: ${a}");
        a = a+1;
    }while(a<maxnum);
}
```