

Activity

65

- ▶ Write code(s) in C++ to print first five even and odd numbers using while loop

Do While Loop

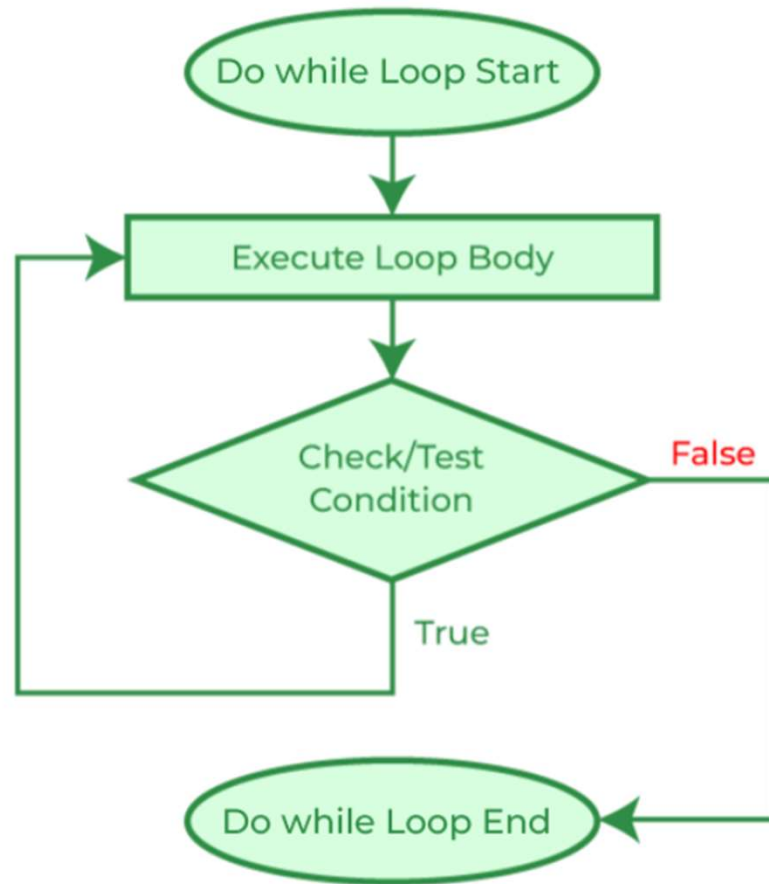
Do while Loop executes a Block of code until a test condition becomes false.

The main difference between a do-while loop and the while loop is in the do-while loop the condition is tested at the end of the loop body.

i.e do-while loop is exit controlled whereas the other two loops are entry-controlled loops.

In a do-while loop, the loop body will **execute at least once** irrespective of the test condition.

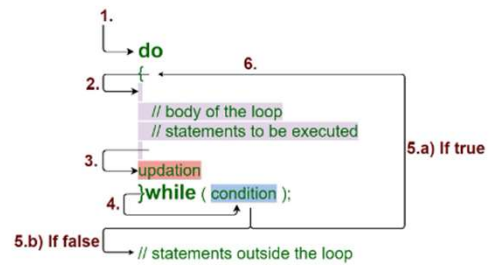
Very
Important!



Do While Loop Flowchart

Syntax

Do - While Loop



```
// C++ program to illustrate do-while loop

#include <iostream>
using namespace std;

int main()
{
    // Initialization expression
    int i = 2;

    do {
        // Loop body
        cout << "Hello World\n";

        // Update expression
        i++;

    }
    // Test expression
    while (i < 1);

    return 0;
}
```

Example#01

do while

Loop

```
// C++ program to illustrate do-while loop

#include <iostream>
using namespace std;

int main()
{
    // Initialization expression
    int i = 1;

    do {
        // Loop body
        cout << i << endl;

        // Update expression
        i++;

    }
    // Test expression
    while (i <= 5);

    return 0;
}
```

Example#02 do while loop

```
while(1)
{
    cout<<"This loop will run infinitely";
}

return 0;
```

```
do
{
    {
        cout<<"This loop will run infinitely";
    }
}
```

```
while(1);
```

Infinite While and Do while

Nested Loops

- ▶ Nested loop means a [loop statement](#) inside another loop statement. That is why nested loops are also called as “loop inside loop”.



```
for ( initialization; condition; increment ) {  
    for ( initialization; condition; increment ) {  
        // statement of inside loop  
    }  
    // statement of outer loop  
}
```

Syntax of Nested for

```
for(int i=1; i<=5; i++){  
    cout<<"Multiplication table of: "<<i<<endl;  
    for(int j=1; j<=10; j++){  
        cout<<i<<"*"<<j<<"="<<i*j<<"\n";  
    }  
}
```

Example