

While True Loop in C++

What is a While True Loop?

A while true loop is an infinite loop that continues executing indefinitely until explicitly broken using control statements like break, return, or when the program is terminated. The condition true (or 1) always evaluates to true, so the loop never stops on its own.

Watch for infinite loops - Make sure your exit condition can be reached.

Basic Infinite Loop with Break

```
#include <iostream>

using namespace std;

int main() {
    int count = 0;
    while (true) {
        cout << "Count: " << count << endl;
        count++;
        if (count >= 5) {
            break; // Exit the loop when count reaches 5
        }
    }
    cout << "Loop ended!" << endl;
    return 0;
}
```

Output:

Continue Statement

```
#include <iostream>

using namespace std;

int main() {
    int num = 0;
    while (true) {
        num++;
        if (num > 10) {
            break; // Stop when num exceeds 10
        }
        if (num % 2 == 0) {
            continue; // Skip even numbers
        }
        cout << num << " "; // Print only odd numbers
    }
    cout << endl;
    return 0;
}
```

Output:

When to Use While True Loops

- Menu-driven programs that run until user chooses to exit
- Game loops that continue until game over condition
- Server programs that continuously listen for connections
- Input validation where you need valid data before proceeding
- Event-driven programs waiting for specific conditions