Control Statements in C++

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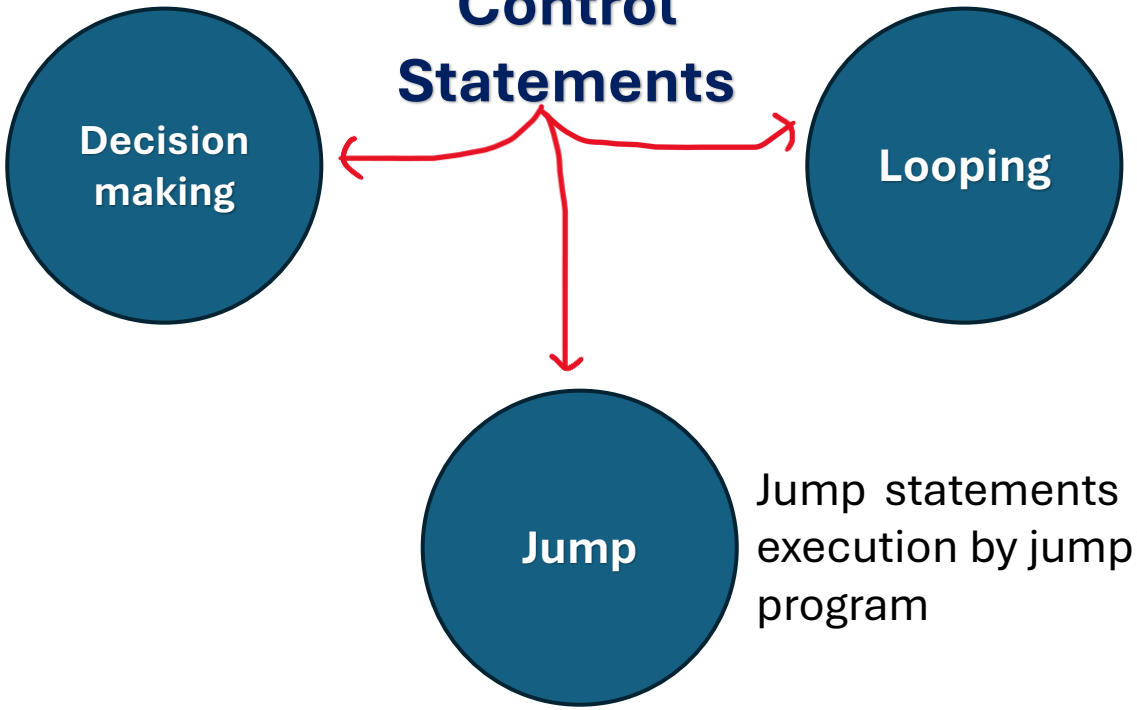
C++ course with PDF Notes

Control Statements



Decision-making statements are used to execute a block of code based on a condition.

Loops allow you to execute a block of code multiple times.

Jump statements alter the normal flow of execution by jumping to another part of the program

Summary

Type	Description
Decision-making [if , if-else, switch]	Executes code based on condition
Looping [for, while, do-while]	Repeats code multiple times
Jump [break, continue, goto]	Alters normal flow of execution

if statement

```
#include <iostream>
using namespace std;

int main() {
    int num = 10;
    if (num > 0) {
        cout << "Number is positive" << endl;
    }
    return 0;
}
```

if-else statement

```
#include <iostream>
using namespace std;

int main() {
    int num = -5;
    if (num > 0) {
        cout << "Number is positive" << endl;
    } else {
        cout << "Number is negative" << endl;
    }
    return 0;
}
```

else if statement

```
#include <iostream>
using namespace std;

int main() {
    int num = 0;
    if (num > 0) {
        cout << "Number is positive" << endl;
    } else if (num < 0) {
        cout << "Number is negative" << endl;
    } else {
        cout << "Number is zero" << endl;
    }
    return 0;
}
```

switch statement

```
#include <iostream>
using namespace std;

int main() {
    int day = 3;
    switch (day) {
        case 1:
            cout << "Monday" << endl;
            break;
        case 2:
            cout << "Tuesday" << endl;
            break;
        case 3:
            cout << "Wednesday" << endl;
            break;
        default:
            cout << "Invalid day" << endl;
            break;
    }
    return 0;
}
```

for loop

```
#include <iostream>
using namespace std;

int main() {
    for (int i = 1; i <= 7; i++) {
        cout << "Iteration " << i << endl;
    }
    return 0;
}
```

while loop

```
#include <iostream>
using namespace std;

int main() {
    int i = 1;
    while (i <= 5) {
        cout << "Iteration " << i << endl;
        i++;
    }
    return 0;
}
```

do-while loop

```
#include <iostream>
using namespace std;

int main() {
    int i = 1;
    do {
        cout << "Iteration " << i << endl;
        i++;
    } while (i <= 5);
    return 0;
}
```

break statement

```
#include <iostream>
using namespace std;

int main() {
    for (int i = 1; i <= 5; i++) {
        if (i == 3) {
            break; // Exit the loop when i equals 3
        }
        cout << "Iteration " << i << endl;
    }
    return 0;
}
```

continue statement

```
#include <iostream>
using namespace std;

int main() {
    for (int i = 1; i <= 5; i++) {
        if (i == 3) {
            continue;
        }
        cout << "Iteration " << i << endl;
    }
    return 0;
}
```

goto statement

```
#include <iostream>
using namespace std;

int main() {
    int i = 1;
    start:
        if (i <= 5) {
            cout << "Iteration " << i << endl;
            i++;
            goto start;
        }
    return 0;
}
```

Combined Control statement

```cpp
#include <iostream>
using namespace std;

int main() {
    int choice;
    cout << "Enter 1 for positive check, 2 for loop: ";
    cin >> choice;

    if (choice == 1) {
        int num;
        cout << "Enter a number: ";
        cin >> num;
        if (num > 0) {
            cout << "Positive number" << endl;
        } else {
            cout << "Non-positive number" << endl;
        }
    } else if (choice == 2) {
        for (int i = 1; i <= 5; i++) {
            cout << "Loop iteration: " << i << endl;
        }
    } else {
        cout << "Invalid choice!" << endl;
    }

    return 0;
}
```

Thanks for watching

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