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Introduction to 'C++' Language

Control Statements and Loops in C Plus Plus

Module 2 - Switch Statement in C Plus Plus



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The C++ **switch case statement** is a control structure that evaluates an expression and directs the flow of program execution to the block of code corresponding to the value of that expression. It is particularly useful as a cleaner and more efficient alternative to multiple **if-else-if** statements when dealing with multiple conditions based on a single variable.



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Key Features of Switch Case:

1. **Expression-Based:** The switch evaluates a single expression or variable.
2. **Case Blocks:** Each case specifies a possible value of the expression, followed by the code to execute if the value matches.
3. **Default Block:** The default block (optional) is executed if none of the case values match the expression.
4. **Break Statement:** Used to terminate a case block; without it, the program continues executing subsequent case blocks (fall-through behavior).
5. **Alternative to If-Else-If Ladder:** It improves readability and structure when handling multiple conditions.



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Syntax of switch Statement in C++



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```
switch (expression) {  
    case value_1:  
        // statements_1;  
        break;  
    case value_2:  
        // statements_2;  
        break;  
    .....  
    .....  
    default:  
        // default_statements;  
        break;  
}
```



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Solved Example: Program to demonstrate the syntax of switch in C++

```
C++  
// C++ program to demonstrate syntax of switch  
#include <iostream>  
using namespace std;  
  
// Driver Code  
int main()  
{  
    // switch variable  
    char x = 'A';  
  
    // switch statements  
    switch (x) {  
    case 'A':  
        cout << "Choice is A";  
        break;  
    case 'B':  
        cout << "Choice is B";  
        break;  
    case 'C':  
        cout << "Choice is C";  
        break;  
    default:  
        cout << "Choice other than A, B and C";  
        break;  
    }  
    return 0;  
}
```

Position of Default Case Does Not Matters

Regardless of its placement, the default case only gets executed if none of the other case conditions are met. So, putting it at the beginning, middle, or end doesn't change the core logic (unless you're using a less common technique called fall-through).

Solved Example: To identify the weekday through (1-7) numbers.

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// C++ program to demonstrate the placement of default

// anywhere

#include <iostream>

using namespace std;

int main()

{

int day;

cout << "Enter a day number (1-7): ";

cin >> day;

switch (day) {

default: // Default placed first for demonstration

cout << "Not a valid weekday." << endl;

break;

case 1:

cout << "It's Monday!" << endl;

break;

case 2:

cout << "It's Tuesday!" << endl;

break;

case 3:

cout << "It's Wednesday!" << endl;

break;

case 4:

cout << "It's Thursday!" << endl;

break;

case 5:

cout << "It's Friday!" << endl;

break;

case 6:

cout << "It's Saturday!" << endl;

break;

case 7:

cout << "It's Sunday!" << endl;

break;

}

return 0;

}

Output

Enter a day number (1-7): 8

Not a valid weekday.



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Assignment

Ques 1: C++ Program to make a Simple Calculator using the switch.

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