Intermediate programming(C++)-

Lab 2 - Conditions

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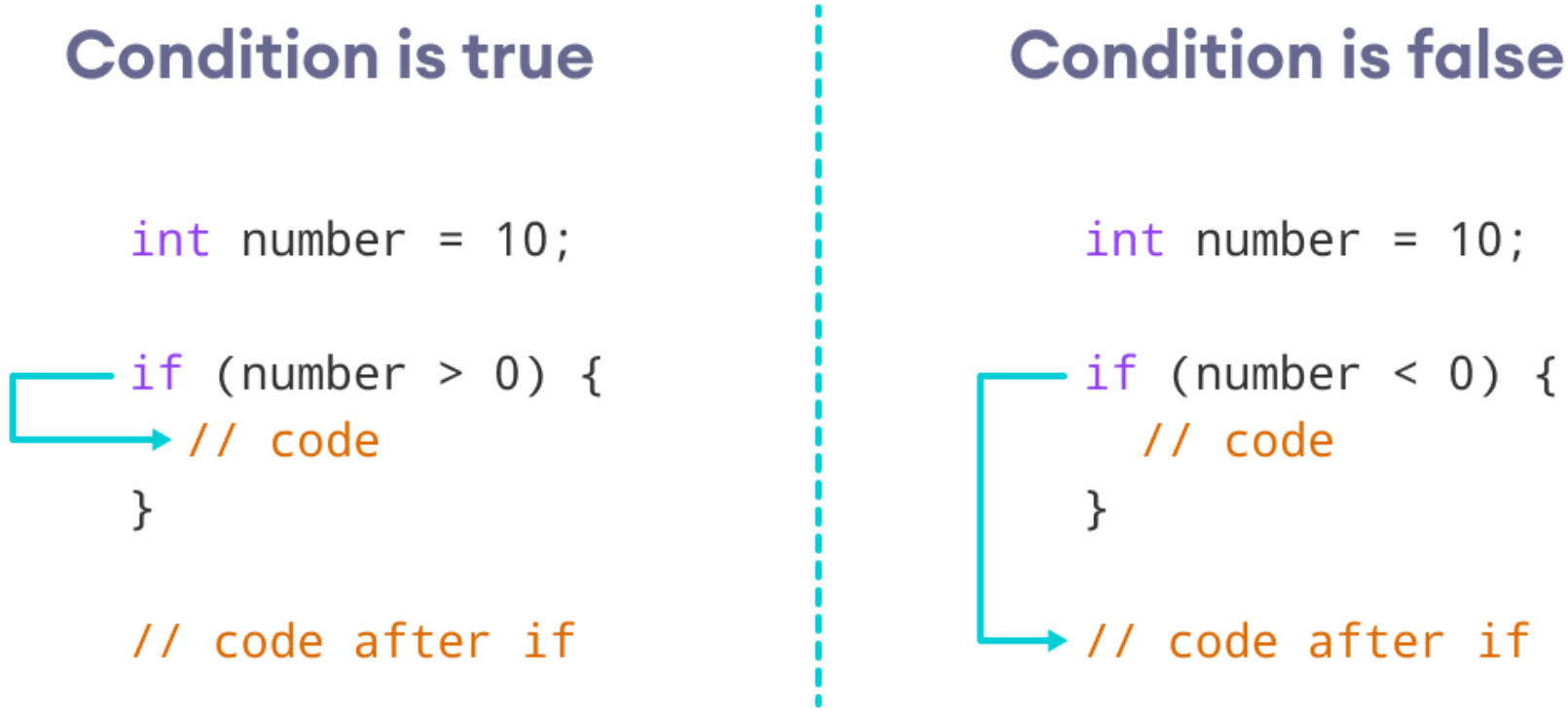
If conditions



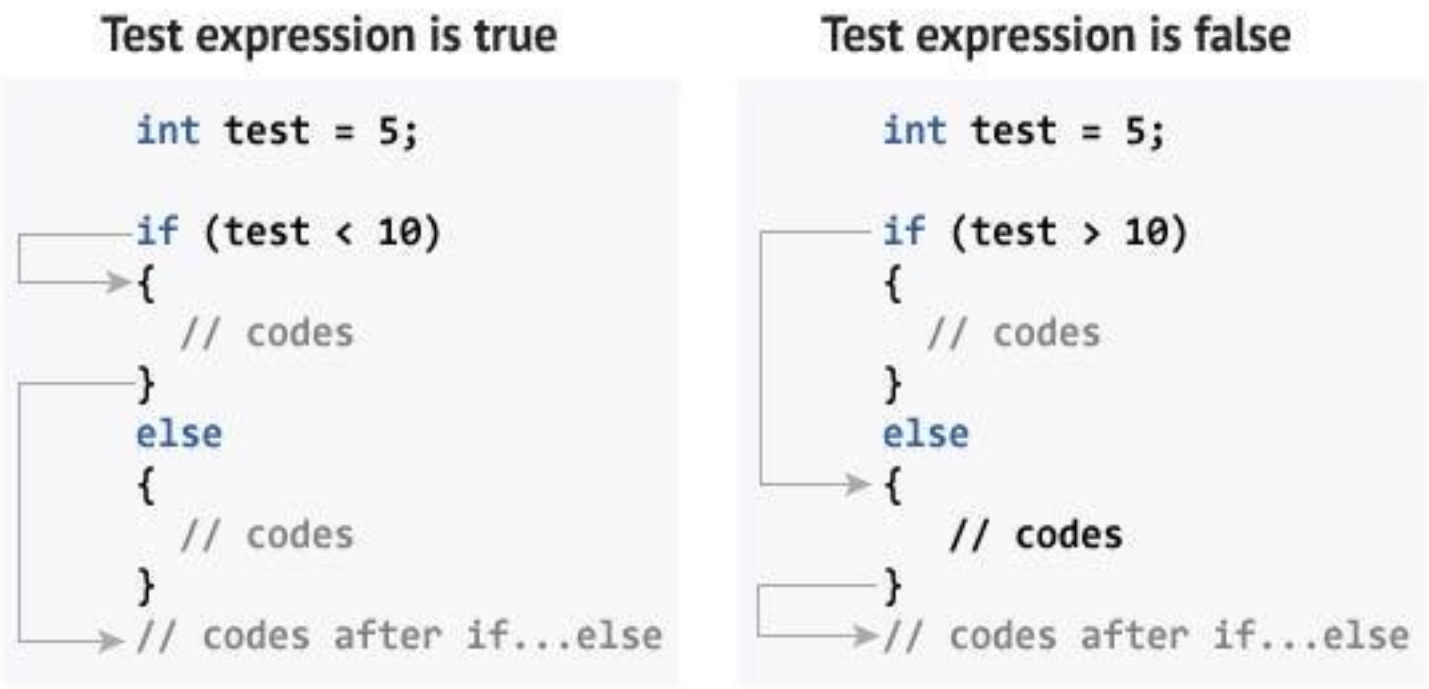
If conditions - Example

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

int main() {
    int x = 20;
    int y = 22;

    if(x < y)
        cout << "X is less then y";

    return 0;
}
```

If conditions – Multiple if

```cpp
#include <iostream>
using namespace std;
int main() {
    int x, y;
    cout << "Enter x: ";
    cin >> x;
    cout << "Enter y: ";
    cin >> y;

    if(x > y)
        cout << "X is greater than y";
    if(x < y)
        cout << "X is less than y";
    if(x == y)
        cout << "X is equal y";

    cout << "End of if condiitons..";
    return 0;
}
```

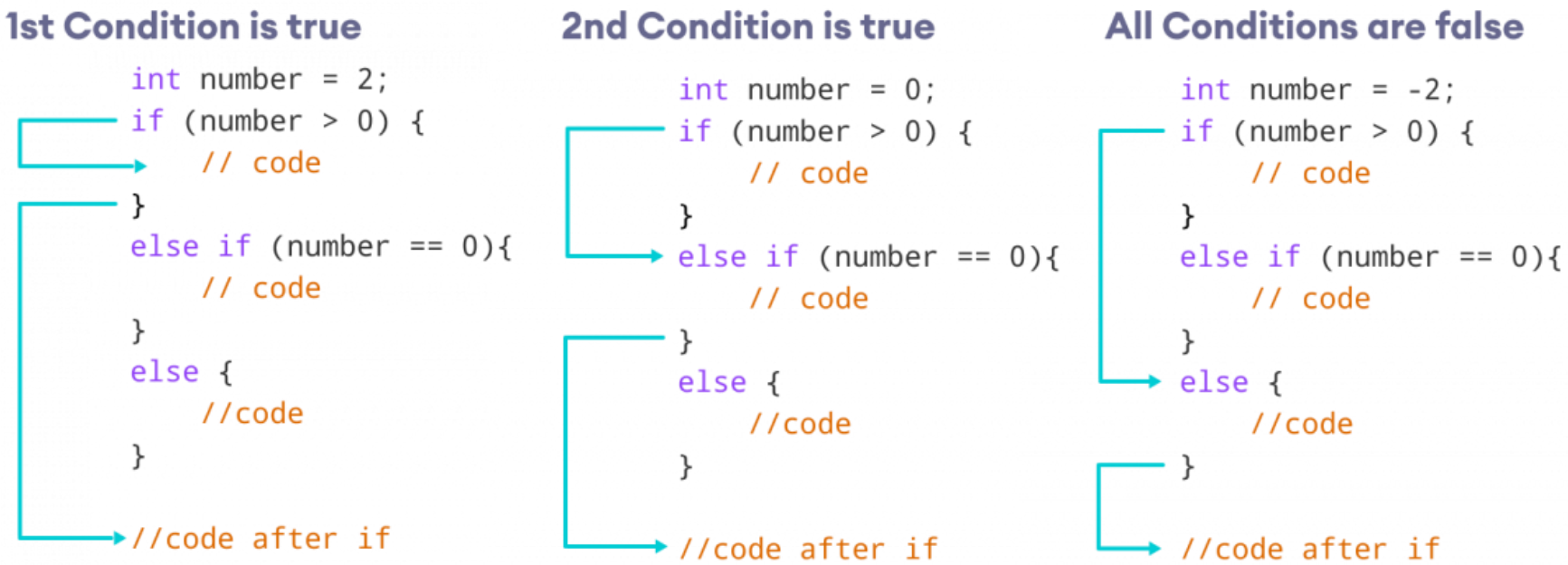
If conditions – if.....else



If conditions – if.....else - Example

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

int main() {
  int number;
  cout << "Enter an integer: ";
  cin >> number;

  if (number >= 0)
    cout << "You entered a positive integer: " << number << endl;
  else
    cout << "You entered a negative integer: " << number << endl;

  cout << "This line is always printed.";

  return 0;
}
```

If conditions – if.....else if.....else



If conditions – if.....else if.....else - Example

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

int main() {
  int number;
  cout << "Enter an integer: ";
  cin >> number;

  if (number > 0)
    cout << "You entered a positive integer: " << number << endl;
  else if (number < 0)
    cout << "You entered a negative integer: " << number << endl;
  else
    cout << "You entered 0." << endl;

  cout << "This line is always printed.";
  return 0;
}
```

If conditions – Nested if

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

int main() {
  int num;
  cout << "Enter an integer: ";
   cin >> num;

  if (num != 0) {
    if (num > 0)
      cout << "The number is positive." << endl;
    else
      cout << "The number is negative." << endl;
  }
  else
    cout << "The number is 0 and it is neither positive nor negative." << endl;

  cout << "This line is always printed." << endl;
  return 0;
}
```

Ternary operator

if condition in one line: condition ? expression1 : expression2;

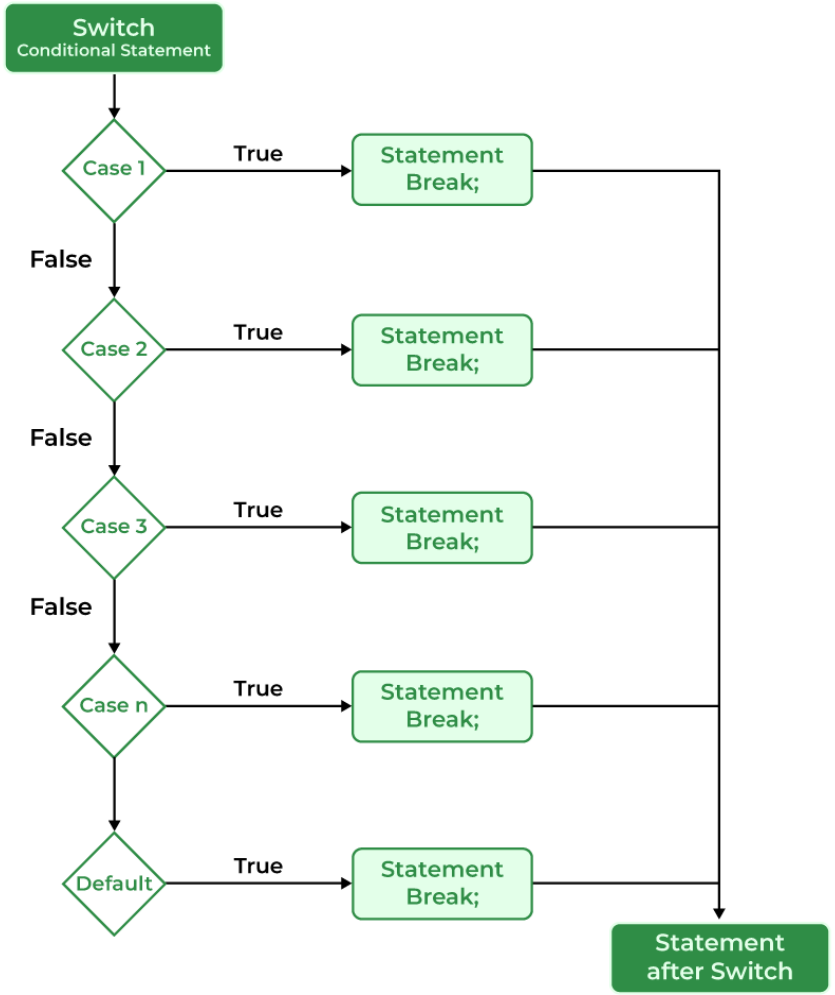
```
#include <iostream>
#include <string>
using namespace std;

int main() {
  double marks;

  cout << "Enter your marks: ";
  cin >> marks;

  string result = (marks >= 40) ? "passed" : "failed";
  cout << "You " << result << " the exam.";

  return 0;
}
```

Ternary operator

Nested ternary operator:

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

int main() {
  int number = 0;
  string result;

  result = (number == 0) ? "Zero" : ((number > 0) ? "Positive" : "Negative");

  cout << "Number is " << result;
  return 0;
}
```

Switch case


Switch
Conditional Statement
Case 1
True
Statement
Break;
False
Case 2
True
Statement
Break;
False
Case 3
True
Statement
Break;
False
Case n
True
Statement
Break;
Default
True
Statement
Break;
Statement
after Switch

Switch case - example

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

int main() {
    char oper;
    float num1, num2;
    cout << "Enter an operator (+, -, *, /): ";
    cin >> oper;
    cout << "Enter two numbers: " << endl;
    cin >> num1 >> num2;

    switch (oper) {
        case '+':
            cout << num1 + num2;
            break;
        case '-':
            cout << num1 - num2;
            break;
```

```
case '*':
            Cout << num1 * num2;
            break;
        case '/':
            Cout << num1 / num2;
            break;
        default:
            cout << "Error!"
            break;
    }

    return 0;
}
```

Lab tasks

- *Task 1:*

Write a single C++ statement to accomplish each of the following:

- **Read an integer from the keyboard and store the value entered in integer variable a.**
- **If number is not equal to 7, print "The variable number is not equal to 7."**

- *Task 2:*

Write a program to

- **Display a number if it is negative**
- **Check whether an integer is odd or even**

- *Task 3:*

Write a program that finds the smallest of three integers

Lab tasks

- *Task 4:*

Write the output of the following program and mention the reason why we get it:

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

int main(){
    int feet,inches;
    cout << "Enter the value of feet: ";
    cin >> feet;

    //converting into inches
    inches = feet * 12;
    cout << "Total inches will be: " << inches;
    return 0;
}
```