Prefix Increment (++x)

The prefix increment operator (++x) increases the value of the variable before it is used in an expression.

The value of x is incremented, and then the incremented value is used.

EXAMPLE:

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

int main() {
    int x = 5;
    int result = ++x;

    cout << "x = " << x << endl;
    cout << "result = " << result << endl;

    return 0;
}
```

2. Postfix Increment (x++)

The postfix increment operator (x++)
uses the value of the variable
before it is incremented.

The current value of x is used in the
expression, and then x is
incremented.

Example:

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

int main() {
    int x = 5;
    int result = x++;

    cout << "x = " << x << endl;
    Cout << "result = " << result <<
         endl;

    return 0;
}
```

main.cpp   Output

```cpp
Write a program in  that tells that
    the number is equal to 10. Use if
    statement

#include <iostream>
using namespace std;

int main() {
    int number;

    cout << "Enter a number: ";
    cin >> number;

    if (number == 10) {
        cout << "The number is equal
            to 10." << endl;
    }

    if (number != 10) {
        cout << "The number is not
            equal to 10." << endl;
    }

    return 0;
}
```

Run

main.cpp | Output

```
Enter a number: 10
The number is equal to 10.


=== Code Execution Successful ===
```

Enter a number: 10
The number is equal to 10.

```cpp
Write a program  to input three
    numbers and find maximum between
    them all

#include <iostream>
using namespace std;

int main() {
    int num1, num2, num3;

    cout << "Enter three numbers: ";
    cin >> num1 >> num2 >> num3;

    if (num1 >= num2 && num1 >= num3)
        {
        cout << "The maximum number is
            : " << num1 << endl;
    } else if (num2 >= num1 && num2 >=
        num3) {
        cout << "The maximum number is
            : " << num2 << endl;
    } else {
        cout << "The maximum number is
            : " << num3 << endl;
    }

    return 0;
}
```
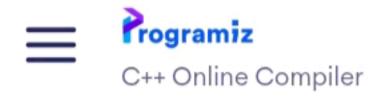
Run

Enter three numbers: 7 1 0
The maximum number is: 7

=== Code Execution Successful ===

```cpp
Write a program  in which user is
asked to enter an year  and the
program checks wether the year is
a leap year or not. Use if and
else logic

#include <iostream>
using namespace std;

int main() {
    int year;

    cout << "Enter a year: ";
    cin >> year;

    if ((year % 4 == 0 && year % 100 != 0) || (year % 400 == 0)) {
        cout << year << " is a leap year." << endl;
    } else {
        cout << year << " is not a leap year." << endl;
    }

    return 0;
}
```

Run

main.cpp | Output

Enter a year: 2020
2020 is a leap year.

=== Code Execution Successful ===

```cpp
1  Write a program  that assign grades (A
      B C) based on marks obtained by a
      student . If percentage is above
      90 grade is A. If percentage is
      above 75 grade is B. If the
      percentage is above 65 grade is C
       use if else if logic
2
3  #include <iostream>
4  using namespace std;
5
6 ▾ int main() {
7      float percentage;
8      char grade;
9
10     cout << "Enter the percentage
           obtained by the student: ";
11     cin >> percentage;
12
13 ▾   if (percentage > 90) {
14         grade = 'A';
15 ▾   } else if (percentage > 75) {
16         grade = 'B';
17 ▾   } else if (percentage > 65) {
18         grade = 'C';
```

```cpp
19 ▾        } else {
20              grade = 'F'; // Failing grade
                    for percentages 65 or
                    below
21          }
22
23      cout << "The grade assigned is: "
            << grade << endl;
24
25      return 0;
26  }
```

Enter the percentage obtained by the student
      : 67
The grade assigned is: C

=== Code Execution Successful ===
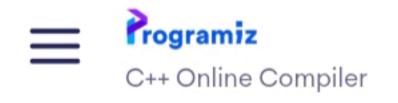
```cpp
Write a program that inputs age in
    years and displays age in days and
    months use if logics

#include <iostream>
using namespace std;

int main() {
    int ageInYears;

    cout << "Enter your age in years: ";
    cin >> ageInYears;

    if (ageInYears >= 0) {
        int ageInMonths = ageInYears * 12;
        cout << "Your age in months: "
            << ageInMonths << endl;

        int ageInDays = ageInYears * 365;
        cout << "Your age in days: "
            << ageInDays << endl;
    } else {
```

```cpp
19          cout << "Invalid input! Please
                enter a non-negative
                number." << endl;
20      }
21
22      return 0;
23  }
```

main.cpp   Output

Enter your age in years: 19
Your age in months: 228
Your age in days: 6935

=== Code Execution Successful ===

```cpp
1   Write a program in c++ to tell if the
        number is positive negative or
        zero if positive then tell if its
        even or odd. Use nested if logic
2
3   #include <iostream>
4   using namespace std;
5
6   int main() {
7       int number;
8
9       cout << "Enter a number: ";
10      cin >> number;
11
12      if (number > 0) {
13          cout << "The number is
                  positive." << endl;
14          if (number % 2 == 0) {
15              cout << "The number is
                      even." << endl;
16          } else {
17              cout << "The number is odd
                      ." << endl;
18          }
```

```cpp
19    } else if (number < 0) {
20        cout << "The number is
          negative." << endl;
21    } else {
22        cout << "The number is zero."
          << endl;
23    }
24
25    return 0;
26 }
```

Run

main.cpp   Output

Enter a number: 62

The number is positive.

The number is even.

=== Code Execution Successful ===

```cpp
1   write a program that checks if a
        person is eligible to vote based
        on age, and if eligible, it
        further checks whether the person
        is a senior citizen (age 60 or
        above).
2
3   #include <iostream>
4   using namespace std;
5
6 ▾ int main() {
7       int age;
8
9       cout << "Enter your age: ";
10      cin >> age;
11
12 ▾    if (age >= 18) {
13          cout << "You are eligible to
                    vote." << endl;
14
15 ▾        if (age >= 60) {
16              cout << "You are a senior
                        citizen." << endl;
```

```cpp
        } else {
            cout << "You are not a
                    senior citizen." <<
                    endl;
        }
    } else {
        cout << "You are not eligible
                to vote." << endl;
    }

    return 0;
}
```

Enter your age: 82
You are eligible to vote.
You are a senior citizen.

=== Code Execution Successful ===