

# OPERATOR OVERLOADING

## AIM:

To create operator overloading for all the arithmetic operators.

## ALGORITHM:

- Define a class Number with an integer data member.
- Initialize the data member using a parameterized constructor.
- Overload the arithmetic operators +, -, \*, /, and %.
- Overload the == operator for comparison.
- Define a function to display the value.
- Create two objects and initialize them with values.
- Perform arithmetic operations using overloaded operators.
- Display the result after each operation.
- Compare the two objects and display the result.

## PROGRAM:

```
/*
 * Program to demonstrate all arithmetic operators overloading in C++
 * Author   : MUTHUGANESH S
 * Date      : 27/1/2026
 * Filename: Overloading.cpp
 * retval    : void
 */

#include <iostream>
using namespace std;

class Number{
private:
    int Value;

public:
    Number(int v){
        Value = v;
    }

    // Overloading + operator
    void operator +(const Number &num){
```

```

        Value = this->Value + num.Value;
    }

    // Overloading - operator
    void operator -(const Number &num){

        Value = this->Value - num.Value;
    }

    // Overloading * operator
    void operator *(const Number &num){

        Value = this->Value * num.Value;
    }

    // Overloading / operator
    void operator /(const Number &num){

        Value = this->Value / num.Value;
    }

    // Overloading % operator
    void operator %(const Number &num){

        Value = this->Value % num.Value;
    }

    Number operator ==(const Number &num){

        return Number(this->Value == num.Value);
    }

    void display(){
        cout << "Value: " << Value << endl;
    }
};

```

```

int main(){

    Number num1(20);
    Number num2(10);

    num1 + num2;
    cout << "After Addition: ";
    num1.display();

    num1 - num2;
    cout << "After Subtraction: ";
    num1.display();

    num1 * num2;
    cout << "After Multiplication: ";
}

```

```
    num1.display();

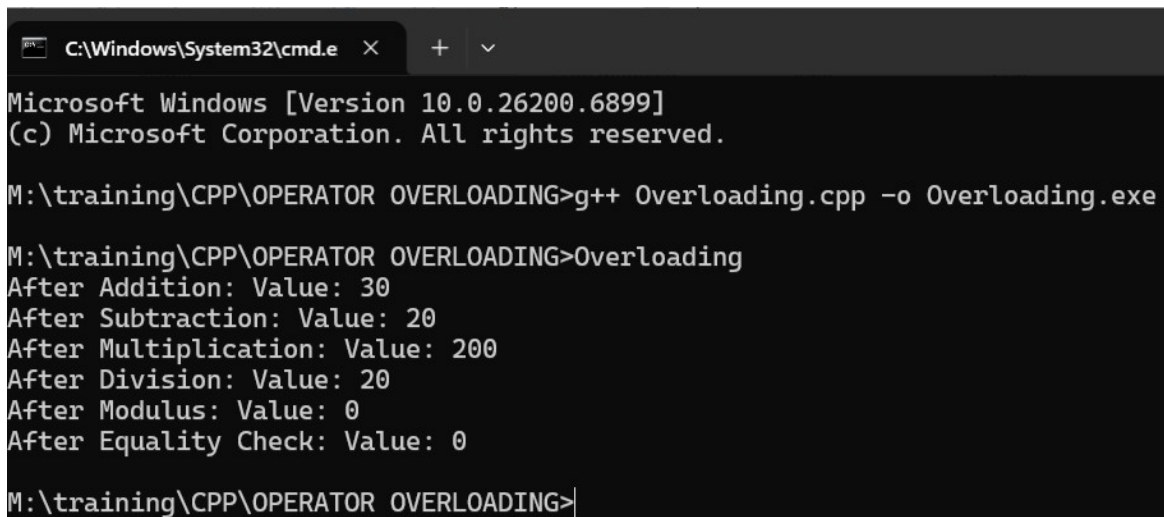
    num1 / num2;
    cout << "After Division: ";
    num1.display();

    num1 % num2;
    cout << "After Modulus: ";
    num1.display();

    Number result = num1 == num2;
    cout << "After Equality Check: ";
    result.display();

    return 0;
}
```

## OUTPUT:



The screenshot shows a Windows command prompt window with the title bar "C:\Windows\System32\cmd.e". The window displays the following text:

```
Microsoft Windows [Version 10.0.26200.6899]
(c) Microsoft Corporation. All rights reserved.

M:\training\CPP\OPERATOR OVERLOADING>g++ Overloading.cpp -o Overloading.exe

M:\training\CPP\OPERATOR OVERLOADING>Overloading
After Addition: Value: 30
After Subtraction: Value: 20
After Multiplication: Value: 200
After Division: Value: 20
After Modulus: Value: 0
After Equality Check: Value: 0

M:\training\CPP\OPERATOR OVERLOADING>
```