



# Fundamental Coding with C

Operators 3: Logical



# Operators 3: Logical

## Logical Operators

- The concept of logical operators is simple. They allow a program to make a decision based on multiple conditions. Each operand is considered a condition that can be evaluated to a true or false value.
- It refers to the boolean values which can be expressed as binary logical operations, which involves two variables (AND and OR) and unitary logical operation (NOT).
  - **&&** (AND) – It is used to check if both the operands are true.
  - **||** (OR) – These operators are used to check if at least one of the operand is true.
  - **!** (NOT) – Used to check if the operand is false.



# Operators 3: Logical

Logical Operators table:

A	B	A&&B	A  B	!A	!B
True	True	True	True	False	False
True	False	False	True	False	True
False	True	False	True	True	False
False	False	False	False	True	True

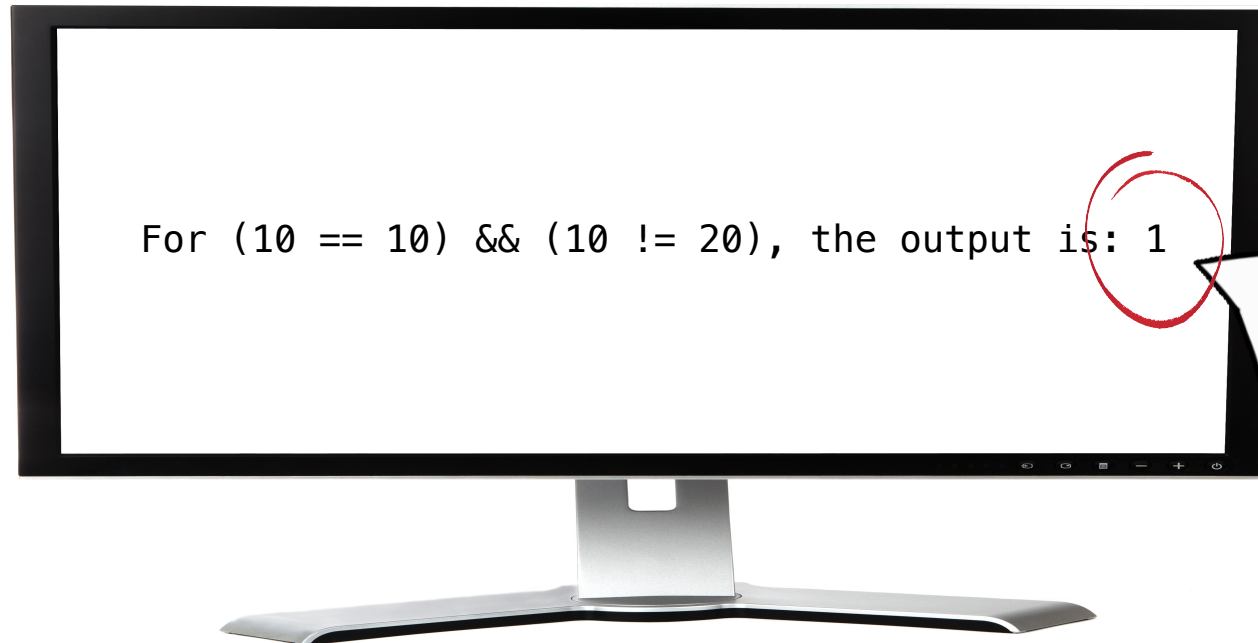
In C logical operators return integers, 0 or 1. Where 0 means false and 1 means true.



# Operators 3: Logical

## Logic operators in C example:

```
int a=10, b=10;  
answer = (a == b) && (c > b);  
printf("For (%d == %d) && (%d != %d), the output is: %d \n",a,b,b,c,answer);
```



In C TRUE is represented with 1 and FALSE with 0

# Is time to Try

<https://repl.it/languages/c>





# Operators 3: Logical

```
#include <stdio.h>
int main()
{
    int a = 10, b = 10, c = 20, answer;
    printf("Code is Loading Logical operators\n");
    answer = (a == b) && (c > b);
    printf("For (%d == %d) && (%d <= %d), the output is: %d \n",a,b,b,c,answer);
    answer = (a == b) || (b > c);
    printf("For (%d == %d) || (%d < %d), the output is: %d \n",a,b,c,b,answer);
    answer = (a != b) || (a <= b) || (a>c);
    printf("For (%d != %d) || (%d < %d), the output is: %d \n",a,b,c,b,answer);
    answer = !(a == b);
    printf("For !(%d == %d), the output is: %d \n",a,b,answer);
    return 0;
}
```