Relational & Logical Operators

(CS 1002)

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Equality and Relational Operators

- Equality Operators:

Operator	Example	Meaning
==	x == y	x is equal to y
!=	x != y	x is not equal to y

- Relational Operators:

Operator	Example	Meaning
>	x > y	x is greater than y
<	x < y	x is less than y
>=	x >= y	x is greater than or equal to y
<=	x <= y	x is less than or equal to y

Logical Operators

- Logical operators are useful when we want to test multiple conditions

- Three types:
  1. boolean AND
  2. boolean OR
  3. boolean NOT

Boolean AND or logical AND

- Symbol: **&&**

- **All** the conditions must be true for the whole expression to be true

  - Example:

```
if ( (a == 10) && (b == 10) && (d == 10) )
        cout<<"a, b, and d are all equel to 10";
```

Boolean OR / Logical OR

- Symbol: **||**

- **ANY** condition is sufficient to be true for the whole expression to be true

  - Example:

```
if (a == 10 || b == 9 || d == 1)
        // do something
```

Boolean NOT/ Logical NOT

- Symbol: **!**

- **Reverses** the meaning of the condition (makes a true condition false, OR a false condition true)

  - Example:

```
if ( ! (marks > 90) )
        // do something
```

Any Questions!