# FAST

## National University of Computer and Emerging Sciences Peshawar

**OOP Lab # 2.4**

# C++ Booleans

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C++ Programming

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# C++ Booleans

Very often, in programming, you will need a data type that can only have one of two values, like:

- YES / NO
- ON / OFF
- TRUE / FALSE

For this, C++ has a bool data type, which can take the values true (1) or false (0).

# Boolean Values

A boolean variable is declared with the bool keyword and can only take the values true or false:

**Example**

bool isCodingFun = true;

bool isFishTasty = false;

cout << isCodingFun;  // Outputs 1 (true)

cout << isFishTasty;  // Outputs 0 (false)

# Boolean Values…

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

int main()
{
    bool isCodingFun=true;

    bool isFishTasty=false;

    cout<<isCodingFun<<endl;
    cout<<isFishTasty<<endl;
    return 0;
}
```

# Boolean Values…

From the example above, you can read that a true value returns 1, and false returns 0. However, it is more common to return boolean values from boolean expressions (see next page).

# Boolean Expressions

A **Boolean expression** is a C++ expression that returns a boolean value: 1 (true) or 0 (false).

You can use a comparison operator, such as the **greater than** (>) operator to find out if an expression (or a variable) is true.

**Example**
int x = 10;
int y = 9;
cout << (x > y);    // returns 1 (true), because 10 is higher than 9

# Boolean Expressions…

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

int main()
{
    int n1=10;
    int n2=7;
    cout<<(n1>n2);
    return 0;

}
```

**Output: 1**

# Boolean Expressions…

**Or even easier:**
**Example**

cout << (10 > 9); // returns 1 (true), because 10 is higher than 9

In the examples below, we use the **equal to** (==) operator to evaluate an expression:
**Example**
int x = 10;
cout << (x == 10);  // returns 1 (true), because the value of x is equal to 10

**Example**
cout << (10 == 15);  // returns 0 (false), because 10 is not equal to 15

# References

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# THANK YOU