

Module 11: Conditional Execution

Intro to Computer Science 1 - C++
Professor Scott Frees

Textbook

The following topics are covered in section 3.3

Conditional Execution

C++ allows us to *conditionally execute* blocks of code

```
if ( <boolean expression> ) {  
    statement 1;  
    statement 2;  
    ...  
}
```

Same as functions!



statements inside if block **only** execute if the Boolean expression evaluates to `true`

Programming Example 10

Ask user to enter two positive integers

If they are equal, say so

If they are not equal, say which one is larger

If statement pitfalls

Better off always using braces

Always pay attention to indentation

```
int x = 6;                int x = 5;
if (x = 5) {              if (x == 5)
    cout << "x is 5";     cout << "line 1";
}                          cout << "line 2";

    int x = 7;
    if (x != 5); {
        cout << "line 1";
    }
```

Error Checking

If statements are excellent for making sure users enter the correct data

```
> Enter the radius: -89  
> Sorry, a circle must have a  
radius larger than zero.  
Cannot proceed.
```

Programming Example 11

$$\frac{-b + \sqrt{b^2 - 4ac}}{2a} \quad \text{and} \quad \frac{-b - \sqrt{b^2 - 4ac}}{2a}$$

If the determinate is negative, stop!