

If Statements

CSCI21

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Program Flow

- Remember that we talked about the **flow** of a program in R
- R reads the lines in a script one by one from top to bottom
- But you might not always want this to be the case!
- What if you only wanted some lines of code to be run if a certain condition is True?

If-Statements

- An **if-statement** allows you to check conditions (logical values) and change the program flow based on those conditions
- If-statements let you run specific lines code (or completely ignore code) depending on **conditions** that you specify
- These conditions are specified by logical values
 - TRUE, FALSE

If-Statement Format

```
if (condition1) {  
    ..statements1..  
} else if (condition2) {  
    ..statements2..  
} else if ...  
...  
...  
else {  
    ..statementsN  
}
```



This whole block is considered one if-statement

If-Statement Format

```
if (condition1) {  
    ..statements1..  
} else if (condition2) {  
    ..statements2..  
} else if ...  
...  
...  
else {  
    ..statementsN..  
}
```

- The if-statement first checks if `condition1` is true
 - If so, it executes statements 1, line-by-line
 - It then skips the rest of the if-statement

If-Statement Format

```
if (condition1) {  
    ..statements1..  
} else if (condition2) {  
    ..statements2..  
} else if ...  
...  
...  
else {  
    ..statementsN..  
}
```

- If condition1 is not true, then it checks to see if condition2 is true
 - If so, it executes statements2, line-by-line
 - The rest of the if-statement is skipped

If-Statement Format

```
if (condition1) {  
    ..statements1..  
} else if (condition2) {  
    ..statements2..  
} else if ...  
...  
...  
else {  
    ..statementsN..  
}
```

- If condition2 is not true, it will continue on with this pattern, checking all the other `else if` statements

If-Statement Format

```
if (condition1) {  
    ..statements1..  
} else if (condition2) {  
    ..statements2..  
} else if ...  
...  
...  
else {  
    ..statementsN..  
}
```

- Lastly, if none of the previous conditions are true, it will run statements after **else**

Examples in RStudio