

if

Week 3

Control structures: `if`

- We have only made programs that have **sequential** instructions executed in the same order.
- But life is full of decisions:
 - what to wear based on the weather
 - choosing a meal based on dietary restrictions
- We have to have different options also in programs. For example:

```
if age >= 18:  
    print("You are an adult.")  
else:  
    print("You are a minor.")
```

Basic syntax

```
if condition:  
    # code to execute if condition is true
```

Explanation:

Explanation

- `if` keyword starts the “if” statement.
- `condition`: This is a boolean expression that evaluates to either `True` or `False`.
- Colon (`:`) indicates the start of the block of code that will run if the condition is true.

Indentation

- **Indentation** means the spaces at the beginning of a code line.
- Where in other programming languages the indentation in code is for readability only, the indentation in Python is part of the language

```
temperature = 20
if temperature > 15:
    print("It's warm outside!")
```

Indentation

- Python will give you an **error** if you skip the indentation:

```
if 5 > 2:  
    print("Five is greater than two!")
```

File: Example5.py

Indentation

- Python uses indentation to indicate **a block of code**.
- You have to use the same number of spaces in the same block of code

File: Example6.py

- **Do not mix** spaces and tabs in indents. This can cause problems if you switch from one editor program to another, as the programs may not handle the tab in the same way.
- IDLE does some indentation automatically
- When indentation ends, also the block ends

File: Example7.py