

MA2252 Introduction to computing

lectures 7-8

Branching statements and loops

Matias Ruiz

October 2023

Branching (if-else)

- ▶ A code construct that executes blocks of code only if certain conditions are met.

```
if logical expression
    code block
end
```

- ▶ Always finish with an **end**
- ▶ Also **else** (i.e. 'otherwise') and **elseif** (i.e. 'otherwise if') statements.
- ▶ It is also possible to have nested branching statements: if-statement contained within another if-statement.

For-loops

Need to perform task repeatedly \Rightarrow **for** (and **while**) loops.

Construction

```
for looping variable = looping array  
    code block  
end
```

- ▶ looping array can be any type of array.
- ▶ We can also have nested for loops

While-loops

A while loop executes the code as long as a given logical expression is true.

Construction

```
while logical expression  
    code block  
end
```

Note: Be mindful of never ending while loops. In that case, do **ctrl + c** to stop the code execution.

Break and continue

- ▶ **break** is used to exit the loop.
- ▶ **continue** skips the rest of the loop's code and begins the next iteration.

Note: In nested for-loops, **break** only exits the inner-most for-loop in which it is contained.