

Recursion

Don't Repeat Yourself?

or... DO Repeat Yourself!

What is recursion?

When a function **calls itself**

CAREFUL!

Infinite loops can happen here too

```
#definition of function
def philosopher():
    print("hmmm...")
    #call the function again
    philosopher()

#call the function initially
philosopher()
```



3 Steps to Recursion



Base case

When the process can
stop.



Action

Put that function to
work!



Recursive Case

The function is called
again, but with the
assurance that progress
is being made towards
the base case

Example

Code Along



Writing Recursive functions

Function
and
Parameters

Base
Case

Action!

Recursion

VOILÀ!
Perfect
recursive
function

Example

Code Along

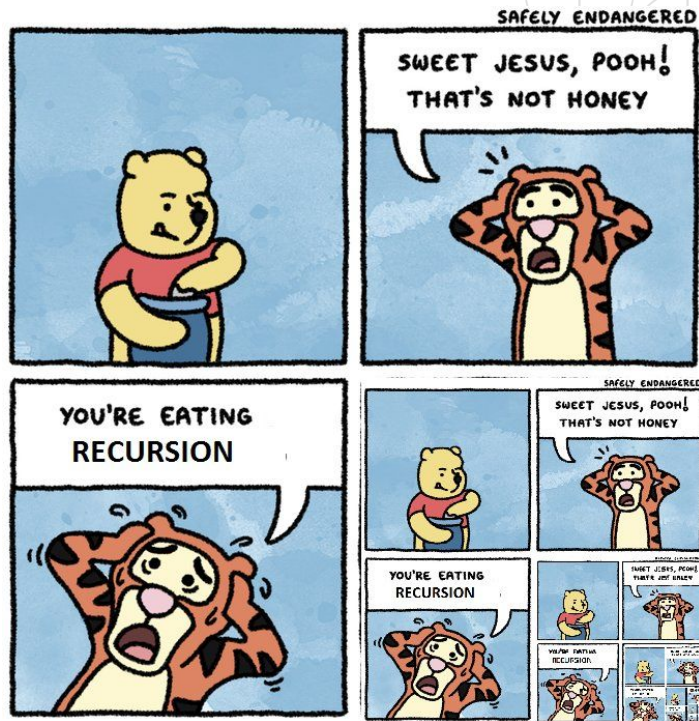


BUT WHY?

Why should I use recursion instead of a loop?

- Written more **cleanly** and with **less code**
- Useful when problems get **larger** or **complex**

Interviews





Recursion Exercises

Open the `recursion.js` file.

Implement the required functions by adding the necessary parameters and logic.

<https://git.generalassemb.ly/ENT-SDA-SEB-216-IP/SDA-SIR-AJ/tree/main/resources/Computer-Science/04.%20Recursion/exercises>