



EXERCISES — Factorial

version #7be580532266ed398481e31366afcc24b1950c2a



**The way is lit. The path is clear.
We require only the strength to follow it.**

Copyright

This document is for internal use at EPITA ([website](#)) only.

Copyright © 2022-2023 Assistants <assistants@tickets.assistants.epita.fr>

The use of this document must abide by the following rules:

- ▷ You downloaded it from the assistants' intranet.*
- ▷ This document is strictly personal and must **not** be passed onto someone else.
- ▷ Non-compliance with these rules can lead to severe sanctions.

Contents

1 Goal

3

*<https://intra.assistants.epita.fr>

File Tree

```
fact/  
└─ fact.c (to submit)
```

Authorized headers : You are only allowed to use the functions defined in the following headers

- err.h
- errno.h
- assert.h
- stddef.h

Compilation : Your code must compile with the following flags

- -std=c99 -pedantic -Werror -Wall -Wextra -Wvla

Main function : None

1 Goal

Implement the function `fact` with the following prototype:

```
unsigned long fact(unsigned n);
```

It computes the factorial of n ($n!$) and returns the result. As a recall:

$$\forall n \in \mathbb{N}, n! = \begin{cases} 1 & \text{if } n = 0 \\ n \times (n - 1)! & \text{if } n \neq 0 \end{cases}$$

You **must** use recursion (i.e.: loops are forbidden).

The way is lit. The path is clear. We require only the strength to follow it.