



# EXERCISES — Fibo Iter

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version #7be580532266ed398481e31366afcc24b1950c2a



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

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## File Tree

```
fibonacci/
├── fibonacci.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

Write the function that computes the *Fibonacci sequence*. But since the recursive implementation of this function is very slow, we want to have a more optimized version that uses loops and does not recompute every previous value every time.

*Reminder:* The Fibonacci sequence is defined by  $U_n$  as follow:

- $U_0 = 0$
- $U_1 = 1$
- $U_n = U_{n-1} + U_{n-2}$

```
unsigned long fibonacci(unsigned long n);
```

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