



# EXERCISES — Connect4

---

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](mailto: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

```
connect4/
├── connect4.c  (to submit)
└── connect4.h  (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 a `connect4` function returning the number of the winning player in a given grid, or 0 if none of them won or if the grid is not valid (if both players won). For this exercise, we won't take into account the gravity, meaning that you can have flying pieces.

**Prototype:**

```
int connect4(const char *game[], size_t columns, size_t lines);
```

`game` is an array of strings each one representing a line on the grid:

- `X` when a piece of the player 1 is present
- `O` when a piece of the player 2 is present
- `-` when no piece is present

As a reminder, a player wins when he lines four of his pieces vertically, horizontally, or in diagonal.

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