

# Mandatory Exercise 4 - Advanced JavaScript with React

The deadline for this exercise is Friday, April 26, 08:59.

For this **mandatory exercise** you should work on **master branch only**.

## Preparation

1. Create a new repository on GitHub called **mandatory-advanced-js4**.
2. Follow the instructions that GitHub gives you; Create a local repository and add a remote or clone the newly created repository.

## Submission

When you submit the exercise in PingPong, before the deadline, you will enter a link to your repository, such as:

<https://github.com/mygithubusername/mandatory-advanced-js4>

The teacher will look in the **master branch**. If any commits are done to the branch after the deadline, the teacher will look at the last commit before the deadline.

You will get one of the grades **G** or **IG**.

## Instructions

In this exercise you will create a Connect Four game using React. Connect Four is a game where two players take turns dropping colored discs into a 7x6 grid.

You can find more information about the game and its rules on Wikipedia.

[https://en.wikipedia.org/wiki/Connect\\_Four](https://en.wikipedia.org/wiki/Connect_Four)

The game should be implemented in React and the players drop discs into the columns by clicking on the grid. When a column is filled, it should not be possible to drop into that column again.

A player wins when four discs of the same color are connected (vertically, horizontally or diagonally). It is important that the logic for checking the winner is implemented correctly.

When a player wins, the game should display a message and it should not be possible to continue playing. If the game is a draw, the game should show a message.

A “reset” button should be displayed after the game is over.

## Requirements

- The game should be written using React
- The game should display a 7x6 grid of circles
- Dropping discs should be implemented correctly. It should not be possible to drop discs into a full column
- The logic to check if a player won should be implemented correctly
- The game should display messages when a player wins or the game is drawn
- The game should display a “reset” button when the game is over

## Tips

- Start by implementing the grid and the logic for dropping discs. The logic for deciding the winner can be implemented last
- Before implementing the logic to check who won, try creating an algorithm with pen and paper before writing any code