Assignment 7 - Kernel Module Programming

The goal of this assignment is to create a special file in the `/dev` and make it behave like a FIFO. Data written to this special file is stored in an internal buffer. When a user space program reads from the corresponding device file, the data in the buffer is returned in a first-in-first-out fashion. Your task is to write a kernel module that handles the read and write operations of this special file. To implement the buffer, it is sufficient to use a static array of a fixed size. Take care of boundary conditions like empty or full buffers and handle them in a sensible way. You can test your module via the new device file using `cat` (for reading) and `echo` (for writing):

```
> echo "123" > /dev/myfifo # Write "123" to the FIFO device file
> echo "456" > /dev/myfifo # Wrtie "456" to the FIFO device file
> cat /dev/myfifo
# Read from the FIFO file
# The cat output:
# 123
# 456
```

How to submit the assignment
You should zip all your source code and upload it through the edmodo forum. Please use the following format to name your file:
`os_assignment<num>_group<num>.zip`
For example, if your group number is 5, you should submit:
`os_assignment7_group5.zip`
The deadline to submit this assignment is 1393/10/13 at 23:59.