Assignment 1 - Process Management

1. The purpose of this assignment is to work with `fork`, `exec`, and `wait` to create new processes and use `pipe` to communicate between parent/child processes. You should implement a code to illustrate the following command: `ls / | wc -l`. This command prints out the number of files in the root path: `ls /` shows the files/directories in the root path, and its output will be piped through `|` to `wc -l`, which counts the number of lines.
   Hint1: Use `fork` to make a child process. The child process, then, executes `ls /`, and it passes the result (i.e., the list files/directories) through a pipe to the parent process. The parent executes `wc -l` to print out the number of lines for the list passed by the child.
   Hint2: You can use `dup2` to redirect the output of the `exec` to the input descriptor made by `pipe`.

2. In this assignment, you will work with message queues. You need to implement two processes, such that the first process reads the content of a file, e.g., `file.txt`, and passes it to the second process through a message queue. Upon receipt of the file content, the second process should count and print out the number of words in the file.

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_assignment1_group5.zip`
The deadline to submit this assignment is 1393/7/14 at 23:59.

Good luck :)