Text of exercise #2

Matteo Corain S256654

Laboratory #6 – System and device programming – A.Y. 2018-19

Since the xv6 is a kernel without semaphores, take inspiration from the file system (`file.c`) and pipe (`pipe.c`) implementation as sources for adding the semaphore system calls:

```
int sem_alloc()
void sem_init(int sem, int count)
void sem_destroy(int sem)
void sem_wait(int sem)
void sem_post(int sem)
```

Hint: modify the files:

- `param.h`;
- `user.h`;
- `usys.S`;
- `syscall.h`;
- `syscall.c`;
- `file.c` to add the semaphore structure definition, and your `sem_` functions;
- `sysfile.c` to add the `sys_sem_` functions in analogy with the other `sys_` functions;
- `main.c` to call `semaphore_init()`;
- `Makefile` to add `_st`.

Use the main file `st.c` to test your semaphores system calls.