# EXERCISES OPERATING SYSTEMS

1. Passengers arrive to a dock for getting a boat to cross a river. They wait in the dock till the boat arrives and then they go into the boat. But the boat only can take 4 passengers and when it is full or there are no passengers wainting in the dock it start crossing the river. After all the passengers goes down when the boat has cross the river goes back for more passengers.

passenger 0 arrives the dock

passenger 6 arrives the dock

passenger 7 arrives the dock

passenger 2 arrives the dock

passenger 5 arrives the dock

passenger 3 arrives the dock

Boat arrives dock

passenger 1 arrives the dock

passenger 4 arrives the dock

passenger 8 arrives the dock

passenger 9 arrives the dock

passenger 0 on board

passenger 6 on board

passenger 7 on board

passenger 2 on board

Boat navy across the river

passenger 0 crossing the river

passenger 7 crossing the river

passenger 6 crossing the river

passenger 2 crossing the river

Boat arrives dock

passenger 5 on board

passenger 3 on board

passenger 1 on board

passenger 4 on board

Boat navy across the river

passenger 5 crossing the river

passenger 4 crossing the river

passenger 3 crossing the river

passenger 1 crossing the river

Boat arrives dock

passenger 8 on board

passenger 9 on board

Boat navy across the river

passenger 8 crossing the river

passenger 9 crossing the river

Boat arrives dock

2.- In a company there is an unisex bathroom, it can be used for women and men. But there are some rules to use it.

* Inside the bathroom only can be women or men, not mixed. So, if a woman want to use it while there are a men inside, has to wait till all men inside go out.
* Inside the bathroom only can be 3 person to avoid loosing time with long talks.

Make a program that simulates the behaviour of women (10 threads) and men (10 threads) using the bathroom repetedly till the user keys return

Woman 2 usando el baño 1

Woman 1 usando el baño 2

Woman 2 saliendo del baño

Woman 1 saliendo del baño

Man 1 usando el baño 1

Man 2 usando el baño 2

Man 1 saliendo del baño

Man 2 saliendo del baño

Woman 3 usando el baño 1

Woman 3 saliendo del baño