Laboratory Work No. 1
Multithreading
C++11 Standard Thread Library & Intel TBB

Exercise 1.1

- Using semaphore.cpp and semaphore.h available on *madoc*, implement a solution to the problem given in Exercise 5 of Tutorial 0, disregarding the possibility of starvation:

  A unisex bathroom is used by both men and women, with the following constraints:

  - *There cannot be men and women in the bathroom at the same time;*

  - *There should never be more than three persons simultaneously in the bathroom.*

Exercise 1.2

The text file sowpods.txt, available on *madoc*, contains a list of words, one per line.

1. Write a C++ program that loads sowpods.txt in memory and that prints the list of words matching a specification given as a command parameter. The specification is composed of letters and dots ("."), each dot being a joker for a letter.

   Example:

   ```
   > ./search-seq s..a.te
   Found 3 matches for s..a.te
   savante
   shmatte
   synapte
   ```

2. Write a parallel version of the program using *Intel Threading Building Blocks*.