

SDP 2016/17 - Lab 3 - Davide Gallitelli S241521

E02 - Text

Write a C program using Pthreads that implements the product of two matrices $m1$ and $m2$, of dimension $nr1 \times nc1$ and $nr2 \times nc2$, respectively, where $nr1$ and $nc1$ are the number of rows and columns of matrix $m1$, and $nr2$ and $nc2$ refer to matrix $m2$. The dimensions of the matrices are given as arguments of the command line, and you must verify that $nc1$ and $nr2$ are equal.

The main thread allocate dynamically the two matrices, fills each matrix with increasing integer numbers, starting from 0. Then, it creates $nr1 \times nc2$ threads `prod_th`, and an additional thread `p_th` that is responsible for printing the product of the two matrices when all threads `prod_th` have completed their work.

The main threads does not wait the termination of the `prod_th` threads. Each thread `prod_th` computes the product of the i -th row of matrix $m1$ and the j -th column of matrix $m2$.