# Lab 10

1. Write a C program that creates a child process. The child process will read two square matrixes of integers from a file. The child process will calculate the product of the two matrixes and send the result matrix to the parent process which will then display it.
   The structure of the input file will be (N - matrix size):
   N
   A11 A12 … A1N
   …
   AN1 AN2 … ANN
   B11 B12 … B1N
   …
   BN1 BN2 … BNN

2. Write a C program that receives N ($0 < N < 10$) command line arguments. The main process creates N child processes. The K-th child process will convert all the lowercase letters of the K-th command line argument to uppercase and send the result back to the parent. The parent will concatenate all the results into one string and display it on the screen.

3. Write 3 C programs (A, B, C). Process A generates a random number X between 100 and 1000 and sends it to process B. Process B multiplies the received number by 2 and sends it to process C. Process C divides the received number by 3 and sends it to process A. Process A increments the number and sends it to process B. This cycle repeats until the number becomes less than 10. Each of the three processes will print a message after receiving a number and before sending a number.