Lab tasks.

Lab 1. OpenMP Matrix Multiplication.

1. Implement Matrix Multiplication
    1.1) Using SPMD Pattern
    1.2) Using OpenMP loop directives with different **schedule (type[, chunk])** configurations
2. Do speedup tests
    2.1) with different amount of data
    2.2) with different number of threads

Lab 2. OpenMP Definite integral calculation.

1. Calculate integral with help of trapezoidal rule with different A, B and precision ε
2. Calculate execution time of serial program
3. Write a parallel program with:
    a. atomic
    b. Critical sections
    c. Locks
    d. reduction
4. Count speedup with different thread number

Lab 3. Parallel K-means.

1. Select some dataset (among proposed (the next slide) or any other) and implement sequential and parallel k-Means algorithm. Compare performance of implemented algorithms