Lab Assignment : Multithreaded Programming - Matrix Multiplication

Write a multi-threaded program to multiply two matrices. The product *C* of matrices *A* (m rows and k columns) and *B* (k rows and n columns) is a matrix of m rows and n columns.

$$C=A*B$$

The individual values of $C_{i,j}$ are calculated as:

$$C_{i,j} = \sum_{a=1}^{k} A_{i,a} * B_{a,j}$$

Define matrices *A*, *B* and *C* as two dimensional arrays or lists. Create a tread to calculate each term of C.

Note:

#Use pthread library for creating threads. (#include<pthread.h>)

#To **compile** C program with **pthread**.h library, you have to put -lpthread just after the **compile** command **gcc** thread.c -o thread, this command will tell to the **compiler** to execute program with **pthread**.h library.

The command is:

gcc thread.c -o thread -lpthread

- **gcc** is the compiler command.
- **thread.c** is the name of c program source file.
- **-o** is option to make object file.
- **thread** is the name of object file.
- **-lpthread** is option to execute pthread.h library file.