**LAB 8**
**23/12/2021**
**OS, CSE SEM V**

1. Write a program using C and pthreads to perform a matrix multiplication of 3*3 matrix.

a b * p q = ap+br aq+bs
c d r s cp+dr cq+ds

Above is a 2*2 matrix. Here, two threads can be used. The first thread will handle the multiplication of first row of first matrix with second matrix which will result into first row of the resultant matrix. Similarly, second thread will handle the multiplication of second row of first matrix with second matrix which will result into second row of the resultant matrix.

Similarly, 3*3 matrix multiplication can be done using threads.

**2.** Write a program to
(a) Send messages to the message queue
(b) Receive messages from the message queue
(c) Remove the message queue.

3. Write a multithreaded program that calculates various statistical values for a list of numbers. This program will be passed a series of numbers on the command line and will then create three separate threads. One thread will determine the average of the numbers, the second will determine the maximum value, and the third will determine the minimum value.

4. WAP which creates two threads. First thread runs a function which increments a global variable 1000 times whereas the second thread runs a function which decrements the same global variable 1000 times. Finally, print the value of the global variable in the main function. Analyse the result.