PROGRAMMING TOOLS LAB ASSIGNMENT

Week # 7

1. Write a program that creates 10 threads. Have each thread execute the same function and pass each thread a unique number. Each thread should print "Hello, World (thread *n*)" five times where '*n*' is replaced by the thread's number. Use an array of pthread_t objects to hold the various thread IDs. Be sure the program doesn't terminate until all the threads are complete.

2. Write a program to create a thread with default attributes and then change the priority to HIGHPRIORITY.

3. Write a program for matrix multiplication using multiple threads, where each thread will perform multiplication of one row from first matrix A and one column from second matrix B. Therefore, each entry in the resultant matrix will be a result of a specific thread, as $[R]_{m*1} = [A]_{m*n} \cdot [B]_{n*l}$. Hence the total number of threads are $m*l$. Dimensions of the matrix should be given as arguments to the main thread.

4. Write a program that computes the square roots of the integers from 0 to 99 in a separate thread and returns an array of doubles containing the results. In the meantime the main thread should display a short message to the user and then display the results of the computation when they are ready.