PROGRAMMING EXERCISES ON MULTITHREADING

(JAVA LAB SESSION - 7 – 11-2024)

1. Write a program that creates a thread in addition to the main thread and runs a code for converting temperature in centigrade to Fahrenheit and vice-versa. Implement this using in both the ways (one using Thread class and using Runnable Interface) in two separate programs.
2. Write a program to sort a list/array of 10 integers, using two separate threads, with each thread sorting half of the list and let the main thread wait and get the two, sorted lists/arrays and resort them for the final sorted list. Print the final sorted list in the class with the main() method.
3. Write a Java program to create and start multiple (4 nos.) threads (either by extending the Thread class or implementing the Runnable Interface) that read and write from a shared text file concurrently. Display the state of each thread with its name while running.
4. Write a program that creates 2 threads, in addition to the main thread, by implementing the Runnable Interface. Set priorities as (3, 9) for the new threads and set priority (5) for the main thread. Thread1 reads half of the list/ array of 10 numbers and sums up, while Thread2 reads and sums up the remaining half numbers from the same list. Display the name of each thread and analyze the output.
5. Write a program to illustrate the working of a synchronized method.
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