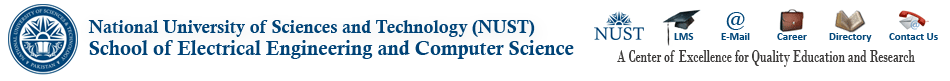
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# **Department of Computing**

**CS 330: Operating Systems**

**BSCS: 10ABC**

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## **Assignment-2: Threaded File Management System**

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**Date: 8 Dec 2022 & 9 Dec 2022**

**Time: 10:00 AM-01:00 PM & 02:00 PM-05:00 PM**

**Instructor: Dr. Farzana Jabeen (AB) & Dr. Sana Qadir (C)**

**This assignment is a continuation of the Lab 11 i.e., Threaded File Management System.**

You are required to submit a detailed document that contains the following:

1. **System design modification**: Explain the refactoring made in the code of Lab 6 “file management” design for making it a thread enabled system. Also explain the different libraries used to accomplish this task.

In lab 6 user were required to give input command and guide the system what to do.

At each step user manage the system according to their given command. We refactored the lab 6 in many ways so it can meets the requirement for lab 11 .We read the file ,pick one word at a time ,store the word into a variable and convert the word to the options that a program needed for execution .Before where we were entering the user input value now we are entering there the option value we get after reading from file. For example ,word create is read from file and it is compared to option and if word is create than 1 is stored in option and that will be used as a user input.

Thread function is added and function is called in int main and that function is joined into the main thread and all the function that were instructed into the file are performed.

**Libraries used:**

Thread

windows.h

Time.h

b. **System functionalities**: Explain the execution of the threads in your developed program. How many threads can your system support and what is the expected output? Did you find any anomaly in parallel execution threads?

Threads are created in the int main after creation of each thread process goes into delay and then next thread created .Our system supports three threads .When two threads are executed at the same time they might try to reach the same resources so the conflict may occur ,for example if two thread occur at same and both try to access the function create file so the error might occur .To solve this problem we made a little change we added a delay function function .

In the output we have shown the memory map of all the each file .

1. **Limitations of your system**: Explicitly write constraints of your system here

* Three threads are created
* Only perform function that are written in the file
* Function performed in the same order as instructed in the file.

d. **Output/Results**: Screenshots of the executed program. sample.dat, input\_thread<x>.txt and output\_thread<x>.txt.

e. **References**: List all the sources you have used as references in implementing your work.

**Deadline**: Same day as Lab submission