

National University of Computer and Emerging Sciences



**Laboratory Manual**  
*for*  
**Operating Systems Lab**  
**(CL-220)**

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Section	4D
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## Objectives

In this lab, students will practice:

1. Inter-process communication using shared memory

### Important Note:

- **Comment your code intelligently.**
  - **Indent your code properly.**
  - **Use meaningful variable names.**
  - **Use meaningful prompt lines/labels for input/output.**
  - **Use meaningful project and C/C++ file name**
1. Create a private shared memory in C/C++. The process then creates a child and waits for the child to write the file's contents to shared memory. The parent then reads the shared memory and changes the case of each character and removes all integers from the data. The child reads it back and writes the changed data back to the same file. (The file name is passed as command line argument). Use open, read, and write system calls for filing.

**Note:** Private shared memory is the shared memory which is only accessible by the process that created it and its children processes. Private shared memory is declared by passing `IPC_PRIVATE` as key. Also, you do not need to explicitly attach the private shared memory in child process since the child inherits the parent's address space.