Database Systems Lab

SESSION 1

Instructions

1. Use ONLY Linux/Unix-like distribution for your lab work
2. Use your roll number in file names of all files that contains your code
3. Prototype of function to write is given in the driver file
4. Your program should NOT contain the main()
5. Write ALL the functions needed for this Lab session in a **SINGLE** .c file named after your roll number and the session number (e.g. **IMT20XX001_session1.c**)
6. Use the provided **driver program** that contains main() to test your functions. **Your functions should run without any modifications to the given driver programs**.

1. Text I/O

a. Write a C function to **store** 20 numbers into a file in text format using FILE library. Hard code the input data within the function. Should NOT enter input data from terminal.
b. Write a C function to **read** 20 numbers from a file in text format and display the values on screen. Use the file created in (a) above as input for this function.
c. Write a C function to **store** 5 student information records (rollno:integer, name:string(30), age:int) into a file in space separated text format. Hard code the input data within the function. Should NOT enter input data from terminal.
d. Write a C function to **read** 5 students information (rollno:integer, name:string(30), age:int) from a file in space separated text format and display the values on screen. Use the file created in (c) above as input for this function.

2. Binary I/O

a. Write a C function to store 20 numbers into a file in binary format. Hard code the input data within the function. Should NOT enter input data from terminal.
b. Write a C function to read 20 numbers from a file in binary format and display the values on screen. Use the file created in (a) above as input for this function.
c. Write a C function to store 5 student information (rollno:integer, name:string(30), age:int) into a file in binary format. Hard code the input data within the function. Should NOT enter input data from terminal.
d. Write a C function to read 5 students information (rollno:integer, name:string(30), age:int) from a file in binary format and display the values on screen. Use the file created in (c) above as input for this function.

3. What to upload

a. Write your code in **IMT20XX001_session1.c** file
b. Rewrite all the functions
c. Upload .c file (only).

4. Useful Example code

Refer to lab01_examplecode.c

5. How to test your program?

Driver Program Files :

Driver program is a program that contains the main() function for testing another function. Separate driver programs are provided for testing the different functions you have to write during this lab.

driver_session1a.c

driver_session1b.c

driver_session1c.c

driver_session1d.c

driver_session2a.c

driver_session2b.c

driver_session2c.c

driver_session2d.c

Your Program :

your_roll_no_lab1.c (imt2023001_lab1.c) ← roll number is all lowercase

Steps to execute your code :

1a	➢ `gcc your_roll_no_lab1.c driver_session1a.c` ➢ `./a.out your_text_file_name_1a` ➢ `cat your_text_file_name_1a`
1b	➢ `gcc your_roll_no_lab1.c driver_session1b.c` ➢ `./a.out your_text_file_name_1a`

	`[give same file name as 1a]`
1c	➢ `gcc your_roll_no_lab1.c driver_session1c.c` ➢ `./a.out your_text_file_name_1c` ➢ `cat your_text_file_name_1c`
1d	➢ **gcc your_roll_no_lab1.c driver_session1d.c** ➢ **./a.out your_text_file_name_1c** ➢ **[give same file name as 1c]**
2a	➢ **gcc your_roll_no_lab1.c driver_session2a.c** ➢ **./a.out your_text_file_name_2a**
2b	➢ **gcc your_roll_no_lab1.c driver_session2b.c** ➢ **./a.out your_text_file_name_2a**
2c	➢ **gcc your_roll_no_lab1.c driver_session2c.c** ➢ **./a.out your_text_file_name_2c**
2d	➢ **gcc your_roll_no_lab1.c driver_session2d.c** ➢ **./a.out your_text_file_name_2c**