Memory Mapping:

1. **Database Description:** You are given a directory named `database`. This directory contains 12 subdirectories each corresponding to a particular department of this institute. Within each of these subdirectories there are several files. Each file corresponds to a specific course (named with course number) and associated list of registered students. Every file is *sorted* according to roll number of the student and contain `roll number, full name` and `e-mail address` of the student in every line. `index.txt` file provides course number and course name mapping.

2. **Your task** is to map *every file* in this database in shared mode *one at a time*. A child process should go through every roll number in mapped area and write to the same shared file respective courses a student is crediting. Once child process is completed its task, main process should unmap the entire mapped region and look for mapping rest of the files.

3. **Input:** database directory.

4. **Example Output** for `database/CSE/cs101.txt`:
   140101001,BT101,MA102,ME101,ME110,PH102,CS101,CS110,EE102,SA102
   140101002,BT101,MA102,ME101,ME110,PH102,CS101,CS110,EE102,SA102
   140101003,BT101,MA102,ME101,ME110,PH102,CS101,CS110,EE102,SA102
   140101004,BT101,MA102,ME101,ME110,PH102,CS101,CS110,EE102,SA102

   Every file in the database directory should get modified according to the above format.

5. **Notes:**

   (a) You should implement this program either in **C** or **C++** language only.

   (b) You can build on the work done in the first assignment for this assignment including how to read directories (section 18.8), how to retrieve file information (section 15.1).

   (c) Material shared with you will help you implement this problem. In particular sections 49.1, 49.2, 49.3 and 49.4.

   (d) TAs will starting taking *Attendance* from 2:30 PM onwards.

   (e) Lab duration 2:00 PM to 5:30 PM. Evaluation starts from 5:30 PM onwards.

6. **Marks Distribution:**

Evaluation Point	Description	Marks
1	Fetching respective file attributes	1
2	Mapping every file of database	1
3	Unmapping entire region	1
4	Child process work	3
5	Output	1
6	Logic	3