

Problem Statement: You are to design a student portal which will perform certain tasks:

registerStudents: This function loads the data from the file and stores in the memory.

displayClassInfo: This function displays the information of students' first name, last name, roll number, marks i.e quiz marks, assignments marks along in obtained marks / maximum marks.

fetchReport: This function displays the average of class for average $::= \{ \text{sum of all students grandTotal} / \text{total no of students} \}$. This function also displays the maximum numbers of each quiz and assignment.

searchStudent: This functionality will take a roll number as input from the user and will display the that students data.

- The initial main is provided to you
- You may implement more functions of your own need, getter setters and variables but make sure not to change initial structure of the class.
- The file for the input is given to you and you cannot change the structure of file. (gradesheet.txt)

```
#include<iostream>
using namespace std;
class StudentInfo
{
public:
    StudentInfo();
    ~StudentInfo();
    void registerStudents(ifstream& filename); // loading students from file into the
memory
    void displayClassInfo(); // displays each students informtaion
    void fetchReport(); // this function calculates and displays the average, maximum
of each quiz.
private:
    static int total_Students; // total number of students in the class
    static int total_Quzies; // total number of quizzes held in class
    static int total_Assignments; // total number of assignments assigned to all the
class
    static int* max_Numbers_Of_Quizes; // array to store maximum numbers scored in
class for each quiz
    static int* max_Numbers_Of_Assignments; // array to store maximum numbers of each
assignment in class

    static int classAverage; // stores the average for whole class
    int grandTotal; // stores the grand total of the students

    int* obt_quizes; // array to store obtained numbers in quizzes
    static int* max_Quizes; // maximum numbers of each quiz

    int* obt_assignments; // array to store obtained numbers in assignments
    static int* max_Assignments; // array to store the maximum numbers of each quiz

    char roll_Number[9]; // rollnumber of student
    char* first_Name; // first name of student
    char* last_Name; // last name of student
};
```

```
int main() {  
  
    char fileName = "filename.txt";  
    int totalStudents;  
    // open file and read the total number of students  
    // total number of quizzes and assignments  
    // maximum numbers of each quiz and assignment  
    StudentInfo* allStudents = new StudentInfo[totalStudents];  
    // iterative  
    allStudents->registerStudents(/* object of ifstream */);  
  
    return NULL;  
}
```

Expected Outputs:

```
Maximum in Assignment 0: 45  
Maximum in Quiz 1: 14  
Maximum in Assignment 1: 53  
Maximum in Quiz 2: 10  
Maximum in Assignment 2: 50  
Maximum in Quiz 3: 10  
Maximum in Assignment 3: 55  
Maximum in Quiz 4: 10
```

Student List										
Roll-No.	Name	Q1	Q2	Q3	Q4	A1	A2	A3	A4	Total
14L-4159	Tahir Ali	0	0	0	0	10	11	14	19	54
14L-4222	Muhammad Ali	6	3	10	10	36	34	27	53	179
14L-4241	Waleed Amjad	8	0	0	3	0	22	0	0	33
14L-4290	Burhan Tahir	14	3	0	10	43	22	35	49	176
14L-4401	Hassan Sohail	14	0	0	8	30	20	15	48	135
14L-5867	Saad Ali	6	8	10	0	0	36	0	52	112
14L-5868	Nisar Haider	0	5	10	10	0	21	0	52	98
15L-4014	Neeha Batool	14	5	10	10	43	49	50	53	234
15L-4019	Abubakar Javed	10	5	5	10	45	50	43	25	193
15L-4023	Saad Sultan	14	5	10	10	43	51	48	55	236
15L-4028	Hassan Elahi	10	8	0	10	45	52	50	55	230
15L-4048	Kamal Subhani	10	10	10	10	45	53	37	52	227
15L-4050	Saad Ahmed	10	3	0	5	32	28	15	51	144
15L-4068	Usman Usman	2	0	0	8	39	19	0	43	111
15L-4083	Zaid Tariq	14	10	0	10	43	48	50	48	223
15L-4084	Abdullah Sidd	14	10	10	10	43	53	48	55	243
15L-4091	Saif ullah	14	5	10	0	41	22	34	55	181
15L-4102	Hashir Baig	14	5	10	10	45	52	48	55	239
15L-4137	Usama Jawad	2	5	0	10	45	36	38	45	181
15L-4149	Haris Muneer	14	10	0	10	16	53	34	47	184
15L-4164	Humna Gul	6	5	0	8	45	47	33	55	199
15L-4166	Talha Zubair	14	8	10	10	45	53	48	55	243
15L-4184	Suleman Uzair	14	3	10	10	43	51	48	55	234
15L-4186	Hammad Farooq	14	3	10	10	43	53	23	55	211
15L-4193	Faizan Ahmed	10	3	0	8	27	18	9	25	100
15L-4204	Tarviha Fatima	10	3	0	8	43	32	32	53	181
15L-4205	Haziq Farooq	6	10	10	10	41	36	25	49	187
15L-4210	Saboor Elahi	14	3	10	8	45	53	33	45	211
15L-4221	Muhammad Taha	8	10	10	10	43	53	48	53	235
15L-4228	Taha Shahid	10	0	10	8	39	11	18	29	125
15L-4237	Zaki Ahmad	2	0	0	3	15	30	15	53	118
15L-4248	Usama Akram	2	0	0	0	0	0	0	44	46
15L-4254	Hamza Majeed	4	0	0	5	0	0	0	47	56
15L-4255	Jamal Butt	6	8	0	8	38	14	29	45	148
15L-4257	Sharjeel Mansha	10	8	0	10	43	41	26	48	186
15L-4261	Suleman Khalid	10	10	10	10	43	48	50	44	225
15L-4262	Rimsha Rimsha	6	3	10	0	41	46	0	37	143

Student Report										
Roll Number: 14L-4159										
Name: Tahir Ali										
Quiz Number 1: 0										
Quiz Number 2: 0										
Quiz Number 3: 0										
Quiz Number 4: 0										
Assignment Number 1: 10										
Assignment Number 2: 11										
Assignment Number 3: 14										
Assignment Number 4: 19										
Total 54/247										

Coding Mubarak 😊