

Term Project

The optical card reader machine generates a text file similar to the one shown below

```
Cards.txt - Notepad
File Edit Format View Help
ALIA AHMET 1237040172220506580AABACADACABDBDDADBDDBCBCBADACABCBCBDBBCCAACCADA
BAMIM OSMAN 230504054AAB CACBDDCBDCACDAADBCDABCDABBDACBADAACBACCCBCC
MOHAMED KHTIB 230504506BBBCAABBCBCCACDCBDDCDBDCBADCAACBDDDDCCBCDAAAD
ABDULQKADIR SALIM 230504500AAABCCACDDACCBCDCBABCBAADAAABCAAAACDBBACAACCBDA
MAYYADA SAMI SHARIKH70495177283210507501BBACADBADABACBACBDDCDBCCADABBABACAACBDADACBDDC*C
Ln 5, Col 121 100% Windows (CRLF) ANSI
```

Each line in the file corresponds to the data read from one optical card. The line format is as follows:

- 01-20 The student's name
- 21-32 The student's TC number
- 33-41 The student's ID number
- 42 The booklet type
- 43-142 The Answers of 100 MCQs

Users of the machine prepare the answer keys in another file similar to the one below:

```
AnswerKeys.txt - Notepad
File Edit Format View Help
AABACADACABDBDDADBDDBCBCBADACABCBCBDBBCCAACCADA
BBBCAABBCBCCACDCBDDCDBDCBADCAACBDDDDCCBCDAAAD
Ln 3, Col 1 100% Windows (CRLF) ANSI
```

Each line in the file corresponds to the answer key of one booklet type where the first character corresponds to the booklet type (booklet type $\in \{A,B,C,D\}$) and the remaining characters are the correct chooses of the MCQ.

In this project You will create a C program to read both files and generate the Grads and Statistics files. You will be guided to develop the final software progressively and demonstrate your progress to your teaching assistant during lab sessions.



This is a detailed view of an optical mark reader form. It features a large grid of bubbles for marking answers, organized by question number. To the right of the grid, there are sections for student information (Name, ID, etc.) and a section for booklet type and answers. The form is titled 'İSTANBUL ATLAS ÜNİVERSİTESİ' and 'İSTANBUL ATLAS UNIVERSITY'.

The previous page describes how you will report your term project along with all your previous submittals. Use that page as a cover page for your final hard copy submittal. Don't forget to mark your section and your program (department).

By turning in what you finished you claim that this is your work so that you should be able to answer any questions. Failure to answer any of the questions your TA or I may ask will result in a failure in the project. Remember that this project should be done individually and searching/reading/studying the internet is encouraged and you can even discuss with us your implementation to get opinion on it.