

[ASM] Students Performance Management System

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Language : Assembly

1. INTRO

This program requires to make comprehensive use of what we have learned in the assembly course. It should implement basic instructional management functions for the managers. The user interface should be simple and clear. There are 10 students, each of whom has 3 subjects. The program allows managers to operate students' data including insertion, modification, deleting, ranking and query.

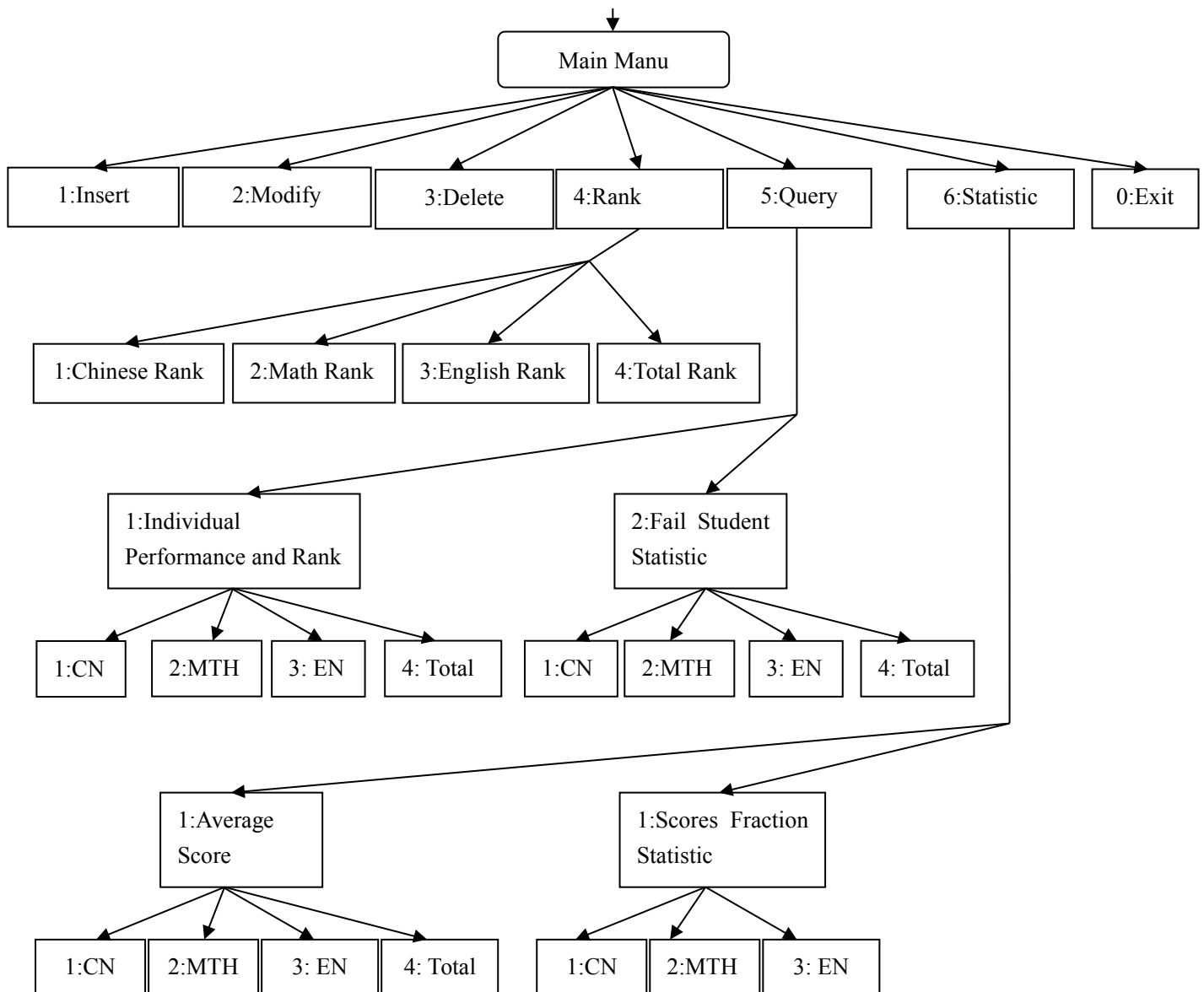
2. DESIGN THOUGHT

- a) If there is no data file in the specified path, the program will create a default data file in the directory. Otherwise, data will be read from the file.
- b) Students' data are saved as Characters. Therefore, one could operate the data by modifying the file.
- c) After inputting data from the file as Character, the program will transform them into Binary, which is more convenient for

calculating.

- d) The program starts calculating data (rank, total score, average score, etc) when it begins to run, then save them into a temporary student data structure. Displays results on the screen. Data will be recalculated every time after an operation finished before returning to the main menu.
- e) Only when the user select option '0:exit' in the main menu will the program outputs updated data into the data file.

3. Structure



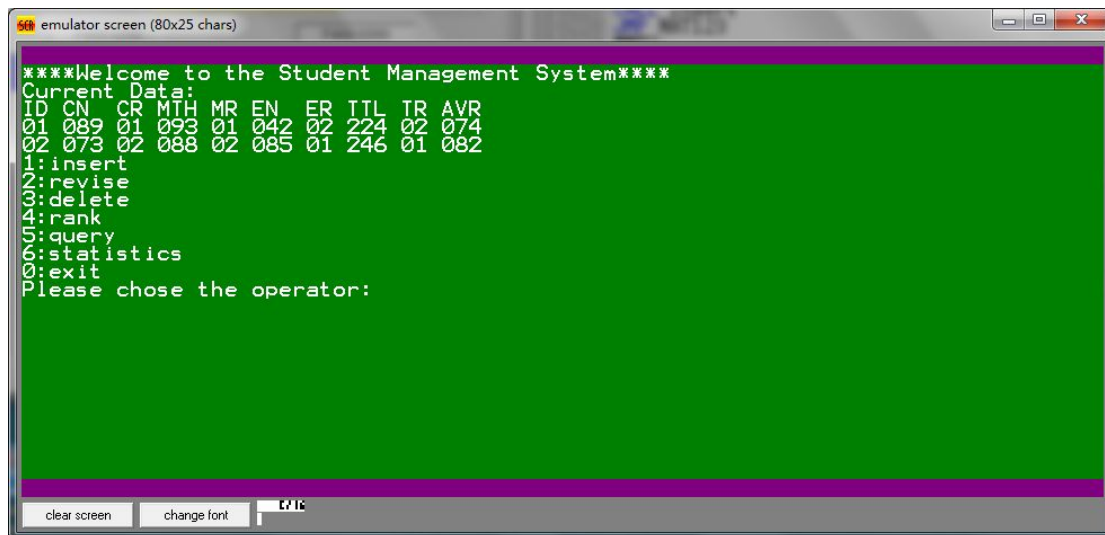
4. Results

When the program is run for the first time, an error will occur, caused by data file missing.

```
file does not exist:  
C:\emu8086\wdrive\DISMS.DAT  
interrupt error: 21h/3Dh : cannot open file.
```

FIGURE 1

Pressed continue. The program will create a data file named



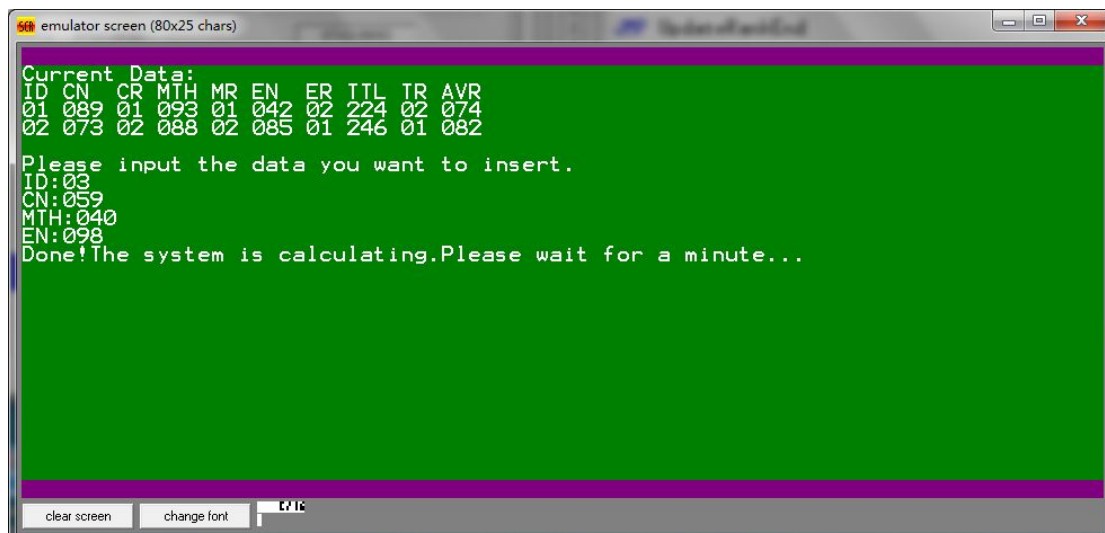
emulator screen (80x25 chars)

```
****Welcome to the Student Management System****
Current Data:
ID CN CR MTH MR EN ER TTL TR AVR
01 089 01 093 01 042 02 224 02 074
02 073 02 088 02 085 01 246 01 082
1:insert
2:revise
3:delete
4:rank
5:query
6:statistics
0:exit
Please chose the operator:
```

clear screen change font 1/16

FIGURE 4

Selects '1:insert' to insert a student's data.



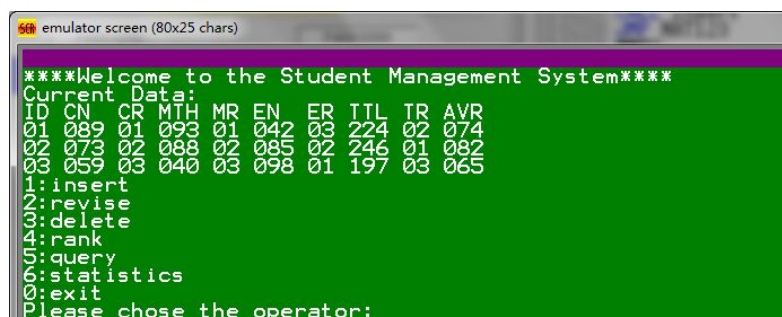
emulator screen (80x25 chars)

```
Current Data:
ID CN CR MTH MR EN ER TTL TR AVR
01 089 01 093 01 042 02 224 02 074
02 073 02 088 02 085 01 246 01 082
Please input the data you want to insert.
ID:03
CN:059
MTH:040
EN:098
Done!The system is calculating.Please wait for a minute...
```

clear screen change font 1/16

FIGURE 5

Insert successfully.



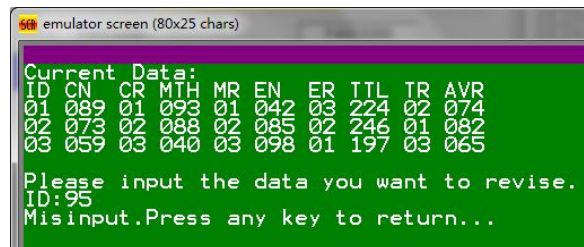
emulator screen (80x25 chars)

```
****Welcome to the Student Management System****
Current Data:
ID CN CR MTH MR EN ER TTL TR AVR
01 089 01 093 01 042 03 224 02 074
02 073 02 088 02 085 02 246 01 082
03 059 03 040 03 098 01 197 03 065
1:insert
2:revise
3:delete
4:rank
5:query
6:statistics
0:exit
Please chose the operator:
```

FIGURE 6

Selects '2:revise' to modify a student's data. If an ID number that does not exist in the system was inputted, it would cause an

error message.

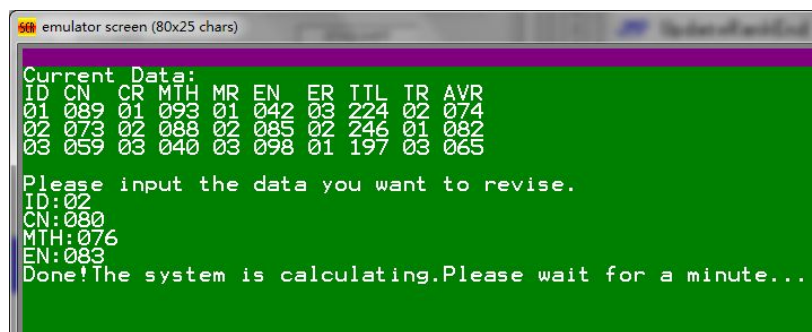


```
emulator screen (80x25 chars)
Current Data:
ID CN CR MTH MR EN ER TTL TR AVR
01 089 01 093 01 042 03 224 02 074
02 073 02 088 02 085 02 246 01 082
03 059 03 040 03 098 01 197 03 065

Please input the data you want to revise.
ID:95
Misinput.Press any key to return...
```

FIGURE 7

Select '2:revise' to modify a student's data.

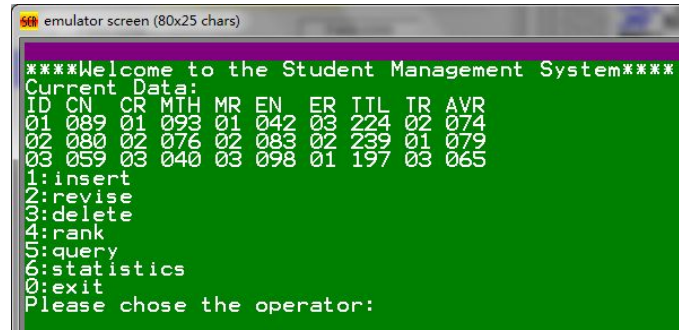


```
emulator screen (80x25 chars)
Current Data:
ID CN CR MTH MR EN ER TTL TR AVR
01 089 01 093 01 042 03 224 02 074
02 073 02 088 02 085 02 246 01 082
03 059 03 040 03 098 01 197 03 065

Please input the data you want to revise.
ID:02
CN:080
MTH:076
EN:083
Done!The system is calculating.Please wait for a minute...
```

FIGURE 8

Modifies successfully.

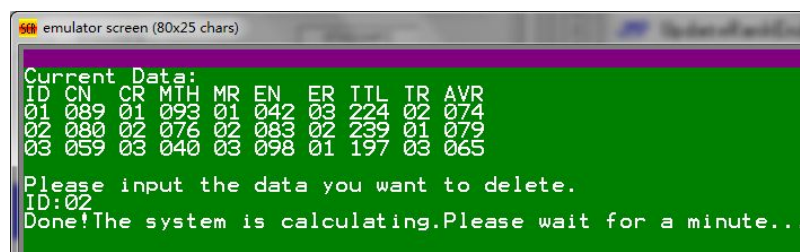


```
emulator screen (80x25 chars)
****Welcome to the Student Management System****
Current Data:
ID CN CR MTH MR EN ER TTL TR AVR
01 089 01 093 01 042 03 224 02 074
02 080 02 076 02 083 02 239 01 079
03 059 03 040 03 098 01 197 03 065

1:insert
2:revise
3:delete
4:rank
5:query
6:statistics
0:exit
Please chose the operator:
```

FIGURE 9

Select '3:delete' to delete a student's data.



```
emulator screen (80x25 chars)
Current Data:
ID CN CR MTH MR EN ER TTL TR AVR
01 089 01 093 01 042 03 224 02 074
02 080 02 076 02 083 02 239 01 079
03 059 03 040 03 098 01 197 03 065

Please input the data you want to delete.
ID:02
Done!The system is calculating.Please wait for a minute...
```

FIGURE 10

Deletes successfully.

```

emulator screen (80x25 chars)

****Welcome to the Student Management System****
Current Data:
ID CN CR MTH MR EN ER TTL TR AVR
01 089 01 093 01 042 02 224 01 074
03 059 02 040 02 098 01 197 02 065
1:insert
2:revise
3:delete
4:rank
5:query

```

FIGURE 11

Inserts students' data until there are 10 students.

```

emulator screen (80x25 chars)

****Welcome to the Student Management System****
Current Data:
ID CN CR MTH MR EN ER TTL TR AVR
01 089 04 093 01 042 10 224 05 074
02 096 02 075 05 088 03 259 03 086
03 059 09 040 09 098 01 197 08 065
04 046 10 057 07 055 09 158 10 052
05 092 03 090 02 084 04 266 02 088
06 084 06 062 06 067 07 213 06 071
07 076 07 081 04 079 05 236 04 078
08 088 05 057 07 060 08 205 07 068
09 099 01 090 02 091 02 280 01 093
10 076 07 022 10 070 06 168 09 056
1:insert
2:revise
3:delete
4:rank
5:query
6:statistics
0:exit
Please chose the operator:

```

Select '4:rank' to rank students (Chinese, Math, English and total score).

```

emulator screen (80x25 chars)

1:Cn Rank 2:Mth Rank 3:En Rank 4:Total Rank
Please chose the operator: 1
CN Rank:
RK ID
01 11
02 02
03 05
04 01
05 31
06 06
07 42 10
08
09 03
10 04
Done!Press any key to return..._

```

FIGURE 12

```

emulator screen (80x25 chars)

1:Cn Rank 2:Mth Rank 3:En Rank 4:Total Rank
Please chose the operator: 3
EN Rank:
RK ID
01 03
02 11
03 02
04 05
05 42
06 10
07 06
08 31
09 04
10 01
Done!Press any key to return..._

```


FIGURE 13

Select '5:query;' to query data.

```
1:Subject 2:Fail
Please input the data you want to query.
```

FIGURE 14

Select '1:Subject' to query a subject score and rank or total score and rank of a student.

```
Current Data:
ID CN CR MTH MR EN ER TTL TR AVR
01 089 04 093 01 042 10 224 05 074
02 096 02 075 05 088 03 259 03 086
03 059 09 040 09 098 01 197 08 065
04 046 10 057 07 055 09 158 10 052
05 092 03 090 02 084 04 266 02 088
06 084 06 062 06 067 07 213 06 071
42 076 07 081 04 079 05 236 04 078
31 088 05 057 07 060 08 205 07 068
11 099 01 090 02 091 02 280 01 093
10 076 07 022 10 070 06 168 09 056

Please input the data you want to query
ID:31
1:Cn 2:Mth 3:En 4:TTL
Please chose the operator: 1
CN:088
CN Rank:05
Done!Press any key to return...
```

FIGURE 15

```
Please input the data you want to query.
ID:11
1:Cn 2:Mth 3:En 4:TTL
Please chose the operator: 2
MTH:090
MTH Rank:02
Done!Press any key to return...
```

FIGURE 16

```
Please input the data you want to query.
ID:03
1:Cn 2:Mth 3:En 4:TTL
Please chose the operator: 3
EN:098
EN Rank:01
Done!Press any key to return..._
```

FIGURE 17


```
Please input the data you want to query.  
ID:10  
1:Cn 2:Mth 3:En 4:TTL  
Please chose the operator: 4  
TTL:168  
Total Rank:09  
Done!Press any key to return...
```

FIGURE 18

Select '2:Fail' to query fail list of a subject.

```
1:Cn 2:Mth 3:En  
Please input the data you want to query.1  
Fail List:  
03 04  
Done!Press any key to return...
```

FIGURE 19

```
1:Cn 2:Mth 3:En  
Please input the data you want to query.2  
Fail List:  
03 04 31 10  
Done!Press any key to return...
```

FIGURE 20

```
1:Cn 2:Mth 3:En  
Please input the data you want to query.3  
Fail List:  
01 04  
Done!Press any key to return...
```

FIGURE 21

Select '6:statistics'.

```
1:Average 2:Sort  
Please input the type of statistic.
```

FIGURE 22

Select '1:Average' to query average scores of subjects and total scores.

```

1:Cn 2:Mth 3:En 4:TTL
Please chose the operator: 1
CN AVR:080
Done!Press any key to return...

```

FIGURE 23

```

1:Cn 2:Mth 3:En 4:TTL
Please chose the operator: 2
MTH AVR:066
Done!Press any key to return...

```

FIGURE 24

```

1:Cn 2:Mth 3:En 4:TTL
Please chose the operator: 3
EN AVR:073
Done!Press any key to return...

```

FIGURE 25

```

1:Cn 2:Mth 3:En 4:TTL
Please chose the operator: 4
TTL AVR:220
Done!Press any key to return...

```

FIGURE 26

Select '2:Sort' to query the number of students of every scores' fraction.

```

1:Cn 2:Mth 3:En
Please chose the operator: 1
0-60 :02
61-70 :00
71-80 :02
81-90 :03
91-100:03
Done!Press any key to return...

```

FIGURE 27

```

1:Cn 2:Mth 3:En
Please chose the operator: 2
0-60 :04
61-70 :01
71-80 :01
81-90 :03
91-100:01
Done!Press any key to return...

```

FIGURE 28

```

1:Cn 2:Mth 3:En
Please chose the operator: 3
0-60 :03
61-70 :02
71-80 :01
81-90 :02
91-100:02
Done!Press any key to return...

```

FIGURE 29

Select '0:exit' to update data and exit.

```

****Welcome to the Student Management System****
Current Data:
ID CN CR MTH MR EN ER TTL TR AVR
01 089 04 093 01 042 10 224 05 074
02 096 02 075 05 088 03 259 03 086
03 059 09 040 09 098 01 197 08 065
04 046 10 057 07 055 09 158 10 052
05 092 03 090 02 084 04 266 02 088
06 084 06 062 06 067 07 213 06 071
42 076 07 081 04 079 05 236 04 078
31 088 05 057 07 060 08 205 07 068
11 099 01 090 02 091 02 280 01 093
10 076 07 022 10 070 06 168 09 056
1:insert
2:revise
3:delete
4:rank
5:query
6:statistics
0:exit
Please chose the operator: 0
Thank you for using!
press any key..._

```

FIGURE 30

Updates file.



FIGURE 31