

Report on Problem 1:

Files included in assignment:

Source Code, Database csv file.

Datastructures used:

Structures in C, Structures inside Structure, Array of structures.

Program outputs:

1. Add operation:

```
-----
Enter 1 to Add a record.
Enter 2 to Delete a record.
Enter 3 to Search a Record.
Enter 4 for Displaying students belonging to particular city/State/Country.
-----
1
You pressed 1.

Enter the roll number of student. (Note: roll no. should be less than 7 ) : 8
Enter the name of student (warning, dont exit until current data is not entered.) : Ravi Kumar
Enter the fathers name (warning, dont exit until current data is not entered.) : Maninder Singh
Enter the mothers name (warning, dont exit until current data is not entered.) : Surjeet kaur
Enter the semester (warning, dont exit until current data is not entered.) : 5th
Enter the branch of student (warning, dont exit until current data is not entered.) : ECE
Enter the houseno of student (warning, dont exit until current data is not entered.) : #4836
Enter the streetname of student (warning, dont exit until current data is not entered.) : Sector 32-A
Enter the city of student (warning, dont exit until current data is not entered.) : Chandigarh
Enter the state of student (warning, dont exit until current data is not entered.) : Chandigarh

Note: Go to the source code of this program and increment NO_OF_STUDENT by 1, otherwise fetching data may fail.
Since array lenght cannot be modified(constant) we cannot do it auto matically.

Press 0 to exit, any other key to continue,
█
```

2.Delete operation:

Initial database:

	A	B	C	D	E	F	G	H	I	J	K
1		1 bochan	dekizuki	shizuka	2nd	CSE	#313	Ravi street	panchkula	haryana	
2		2 pinki	raju kumar	aditi	5th	CIV	#67	Sector 24-	chandigarh	chandigarh	
3		3 Akash	Krishna	Shreya	4th	ECE	#864	GT road	patna	bihar	
4		4 karoshi	bazuka	Saumya	7th	CSE	#3448	Sector 40	chandigarh	chandigarh	
5		5 napa	zizo	Sita	2nd	ARTS	#364	Wall street	zirakpur	punjab	
6		6 Chetan	Anala	kumari	5th	ECE	#23	hallo major	moga	punjab	
7		7 smokey na	bruce lee	masaki na	2nd	MECH	#47	Yokohama	delhi	delhi	
8		8 Ravi Kumar	Maninder	Surjeet kaur	5th	ECE	#4836	Sector 32-	chandigarh	chandigarh	

Program:

```
-----  
Enter 1 to Add a record.  
Enter 2 to Delete a record.  
Enter 3 to Search a Record.  
Enter 4 for Displaying students belonging to particular city/State/Country.  
-----  
2  
You pressed 2.  
  
Enter the roll no. of student to be deleted.  
8  
  
Student deleted successfully.  
PS C:\Users\Abdul\Desktop\programs\assignment 1> |
```

Final Database:

	A	B	C	D	E	F	G	H	I	J	K
1		1 bochan	dekizuki	shizuka	2nd	CSE	#313	Ravi street	panchkula	haryana	
2		2 pinki	raju kumar	aditi	5th	CIV	#67	Sector 24-	chandigarh	chandigarh	
3		3 Akash	Krishna	Shreya	4th	ECE	#864	GT road	patna	bihar	
4		4 karoshi	bazuka	Saumya	7th	CSE	#3448	Sector 40	chandigarh	chandigarh	
5		5 napa	zizo	Sita	2nd	ARTS	#364	Wall street	zirakpur	punjab	
6		6 Chetan	Anala	kumari	5th	ECE	#23	hallo major	moga	punjab	
7		7 smokey na	bruce lee	masaki na	2nd	MECH	#47	Yokohama	delhi	delhi	

Search Operation:

```
-----  
Enter 1 to Add a record.  
Enter 2 to Delete a record.  
Enter 3 to Search a Record.  
Enter 4 for Displaying students belonging to particular city/State/Country.
```

```
-----  
3  
You pressed 3.
```

```
Enter the roll of student: 7
```

```
Roll no. : 7  
Name: smokey nagata  
Fathers name: bruce lee  
Mothers name: masaki nagata  
Semester: 2nd  
Branch: MECH  
House no. : #47  
Street name: Yokohama  
City: delhi  
State: delhi
```

```
PS C:\Users\Abdul\Desktop\programs\assignment 1> █
```

Displaying students

From a city :

```
-----  
Enter 1 to Add a record.  
Enter 2 to Delete a record.  
Enter 3 to Search a Record.  
Enter 4 for Displaying students belonging to particular city/State/Country.  
-----
```

4

You pressed 4.

Press c to search by city, Press s to search by state: c
You entered c

Enter the city(students of that city will be displayed)
Npte: use lower case letters only
-> chandigarh

Roll no. : 2
Name: pinki
Fathers name: raju kumar
Mothers name: aditi
Semester: 5th
Branch: CIV
House no. : #67
Street name: Sector 24-B
City: chandigarh
State: chandigarh

Roll no. : 4
Name: karoshi
Fathers name: bazuka
Mothers name: Saumya
Semester: 7th
Branch: CSE
House no. : #3448
Street name: Sector 40 D
City: chandigarh
State: chandigarh

PS C:\Users\Abdul\Desktop\programs\assignment 1> |

Displaying by state:

```
-----  
Enter 1 to Add a record.  
Enter 2 to Delete a record.  
Enter 3 to Search a Record.  
Enter 4 for Displaying students belonging to particular city/State/Country.  
-----
```

```
4  
You pressed 4.
```

```
Press c to search by city, Press s to search by state: s  
You entered s
```

```
Enter the state(students of that state will be displayed)  
Npte: use lower case letters only  
-> punjab
```

```
Roll no. : 5  
Name:Napa haroshi  
Fathers name: Goku  
Mothers name: Zizo  
Semester: 2nd  
Branch: ARTS  
House no. : #364  
Street name: Wall street  
City: zirakpur  
State: punjab
```

```
Roll no. : 6  
Name: Chetan  
Fathers name: Anala  
Mothers name: kumari  
Semester: 5th  
Branch: ECE  
House no. : #23  
Street name: Badal street  
City: moga  
State: punjab
```

```
PS C:\Users\Abdul\Desktop\programs\assignment 1> █
```

How to use the program:

Step 1:

Download both the files provided.

Step 1:

Open the source code and change the path variable (on line 7) to the address of db.csv file provided. (Note: use “ \\ ” instead of “ \ ”)

Compile the source code.

Step 2:

Open the csv with notepad and check if the csv file is in the format,

```
data 1,data 2,data 3, ... ,data 10 “\n”
data 11,data 12,data 13, ... ,data 20 “\n”
.
.
.
data n, data (n+1), ... , data m “\n”
```

i.e. a new line character after the last data field in the last line.

Note: program wont know if a record is present until it sees a (next line char (\n)).

Step 3:

Run the executable. And perform the required operation.

Note: If you perform add(or delete) operation then you have to manually go to source code and increase(or decrease) the NO_OF_STUDENTS variable (on line 6) depending on whether you increased or decreased the no. of students in database. *And recompile the source code.*

The corresponding error message generated is **“Failed to fetch data.”**

(See below for Why this happens?)

Why this happens?

In using array of structures, The array has to be of fixed length i.e. we cannot resize the the array

Or we cannot increment/decrement the variable used to index array.

Eg.

```
int x;
```

```
int array[x];
```

```
++x;           // is a wrong statement
```