

**Assignment 1: Shell programming** Write a program to implement an address book with options given below: a) Create address book. b) View address book. c) Insert a record. d) Delete a record. e) Modify a record. f) Exit.

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**Source Code:**

```
1      #!/bin/bash
2
3      clear
4      RED='\033[0;31m'
5      GREEN='\033[0;32m'
6      YELLOW='\033[1;33m'
7      NC='\033[0m'
8
9      # Function: Create Database
10     createDB()
11     {
12         echo -n "Enter name of DB: "
13         read db
14         isFound=`ls | grep $db | wc -w`
15
16         if [ $isFound -gt 0 ]
17         then
18             printf "\n${RED}ERROR:: DB File is already created! ${NC} \n"
19         else
20             touch $db
21             printf "\n${GREEN}Success:: DB Created Successfully!! ${NC} \n"
22         fi
23     }
24
25     # Function: Insert Record
26     insertRecord()
27     {
28         echo -n "Enter name of DB: "
```

```

30     read db
31     isFound=`ls | grep $db | wc -w`
32
33     if [ $isFound -gt 0 ]
34     then
35         echo "Enter email address: "
36         read mail
37         isEmailFound=`cat $db | grep $mail | wc -w`
38         if [ $isEmailFound -gt 0 ]
39         then
40             printf "\n${RED}ERROR:: Email already Exist!!..Try with another email
41 ${NC} \n"
42         else
43             echo -n -e "Enter Roll Number: "
44             read rollNo
45             echo -n -e "Enter Name: "
46             read name
47             echo -n -e "Enter Mobile Number: "
48             read mobile
49
50             echo -e "$rollNo\t $name\t $mail\t $mobile" >> $db
51             printf "\n${GREEN}Success:: Record Inserted !! ${NC} \n"
52         fi
53     else
54         printf "\n${RED}ERROR:: DB Not Found!! ${NC} \n"
55     fi
56 }
57
58 # Function: Show Database
59 viewDB()
60 {
61     echo -n "Enter name of DB: "
62     read db
63     isFound=`ls | grep $db | wc -w`
64
65     if [ $isFound -gt 0 ]
66     then
67         printf "\n${YELLOW}Roll Number\t Name\t Email\t Mobile Number ${NC}
68 \n" cat $db
69     else
70         printf "\n${RED}ERROR:: DB Not Found!! ${NC} \n"
71     fi
72 }
73
74 # Function: Search Record
75 searchRecord()
76 {
77     echo -n "Enter name of DB: "
78     read db
79     isFound=`ls | grep $db | wc -w`
80
81     if [ $isFound -gt 0 ]
82     then
83         echo -n "Enter Email Address: "
84         read mail
85         c=`grep $mail $db`
86         if [ ${#c} -gt 5 ]
87         then

```



```

89             printf "\n${GREEN}Success:: Record Found !! ${NC} \n"
90         else
91             printf "\n${RED}ERROR:: Record Not Found!! ${NC} \n"
92         fi
93     else
94         printf "\n${RED}ERROR:: DB Not Found!! ${NC} \n"
95     fi
96 }
97
98 # Function: Modify Record
99 modifyRecord()
100 {
101     echo -n "Enter name of DB: "
102     read db
103     isFound=`ls | grep $db | wc -w`
104
105     if [ $isFound -gt 0 ]
106     then
107         echo -n "Enter Email Address: "
108         read mail
109         isEmailFound=`cat $db | grep $mail | wc -w`
110         if [ $isEmailFound -gt 0 ]
111         then
112             echo -n "Enter New Roll Number: "
113             read rollNo
114             echo -n "Enter New Name: "
115             read name
116             echo -n "Enter New Mobile Number: "
117             read mobile
118
119             modifiedRecord=`echo -e "$rollNo\t\t$name\t\t$mail\t\t$mobile"`
120             oldRecord=`cat $db | grep $mail`
121
122             echo "OLD Record: $oldRecord"
123             echo "NEW Record: $modifiedRecord"
124
125             sed -i "s/$oldRecord/$modifiedRecord/g" $db
126             printf "\n${GREEN}Success:: Record Modified !! ${NC} \n"
127         else
128             printf "\n${RED}ERROR:: Email Not Found!! ${NC} \n"
129         fi
130     else
131         printf "\n${RED}ERROR:: DB Not Found!! ${NC} \n"
132     fi
133 }
134
135
136 # Function: Delete Record
137 deleteRecord()
138 {
139     echo -n "Enter name of DB: "
140     read db
141     isFound=`ls | grep $db | wc -w`
142
143     if [ $isFound -gt 0 ]
144     then
145         echo -n "Enter Email Address: "
146

```

147	read mail
-----	-----------

148	isEmailFound=`cat \$db   grep \$mail   wc -w`
149	if [ \$isEmailFound -gt 0 ]
150	then
151	oldRecord=`cat \$db   grep \$mail`
152	
153	sed -i "s/\$oldRecord//g" \$db
154	sed -i "/^\$/d" \$db
155	printf "\n\${GREEN} Success:: Record Deleted!! \${NC} \n"
156	else
157	printf "\n\${RED}ERROR:: Email Not Found!! \${NC} \n"
158	fi
159	else
160	printf "\n\${RED}ERROR:: DB Not Found!! \${NC} \n"
161	fi
162	
163	}
164	
165	while [ true ]
166	do
167	echo "+-----+"
168	echo "  MENU  "
169	echo "+-----+"
170	echo " Press 1   Create Database "
171	echo " Press 2   Insert Record  "
172	echo " Press 3   View Database  "
173	echo " Press 4   Search Record  "
174	echo " Press 5   Modify Record  "
175	echo " Press 6   Delete Record  "
176	echo " Press 7   Exit  "
177	echo "+-----+"
178	
179	echo -e -n "\nEnter your Requirment: "
180	read choice
181	
182	case \$choice in
183	1) createDB ;;
184	2) insertRecord ;;
185	3) viewDB ;;
186	4) searchRecord ;;
187	5) modifyRecord ;;
188	6) deleteRecord ;;
189	7)exit;;
190	*) printf "\n\${RED}ERROR:: Invalid Input \${NC} \n"
191	esac
192	done

**OUTPUT:**

```
[root@localhost mark1]# ls
db.csv  menu.sh
[root@localhost mark1]#
```

**Menu:**

```
+-----+
|           MENU           |
+-----+
|Press 1 | Create Database|
|Press 2 | Insert Record  |
|Press 3 | View Database  |
|Press 4 | Search Record   |
|Press 5 | Modify Record    |
|Press 6 | Delete Record    |
|Press 7 | Exit              |
+-----+

Enter your Requirment: 
```

**Create DB:**

```
+-----+
|           MENU           |
+-----+
|Press 1 | Create Database|
|Press 2 | Insert Record  |
|Press 3 | View Database  |
|Press 4 | Search Record   |
|Press 5 | Modify Record    |
|Press 6 | Delete Record    |
|Press 7 | Exit              |
+-----+

Enter your Requirment: 1
Enter name of DB: db.csv

ERROR:: DB File is already created!
```

```
Enter your Requirment: 1
Enter name of DB: db1.csv

Success:: DB Created Successfully!!
```

```
[root@localhost mark1]# ls
db1.csv db.csv menu.sh
[root@localhost mark1]#
```

**View DB:**

**Insert DB:**

```
+-----+
|          MENU          |
+-----+
| Press 1 | Create Database |
| Press 2 | Insert Record   |
| Press 3 | View Database   |
| Press 4 | Search Record   |
| Press 5 | Modify Record   |
| Press 6 | Delete Record   |
| Press 7 | Exit            |
+-----+

Enter your Requirment: 2
Enter name of DB: db.csv
Enter email address:
eric@gmail.com
Enter Roll Number: 565656
Enter Name: Eric Roy
Enter Mobile Number: 8767897463

Success:: Record Inserted !!
```

**We can see new record is added:**

```
Enter your Requirment: 3
Enter name of DB: db.csv
```

Roll Number	Name	Email	Mobile Number
333053	Chaitanya	chai@gmail.com	8890878904
121212	Raj Tawri	raj@gmail.com	9089098789
123323	Jack Robin	jack@gmail.com	9878234564
565656	Eric Roy	eric@gmail.com	8767897463

If we try to insert a record which is already there. Then It will print error:

```
Enter your Requirment: 2
Enter name of DB: db.csv
Enter email address:
jack@gmail.com
```

```
ERROR:: Email already Exist!!!.Try with another email
```

Search Record:

```
+-----+
|          MENU          |
+-----+
|Press 1 | Create Database |
|Press 2 | Insert Record   |
|Press 3 | View Database  |
|Press 4 | Search Record  |
|Press 5 | Modify Record  |
|Press 6 | Delete Record  |
|Press 7 | Exit           |
+-----+
```

```
Enter your Requirment: 4
Enter name of DB: db.csv
Enter Email Address: jack@gmail.com
123323          Jack Robin      jack@gmail.com  9878234564
```

```
Success:: Record Found !!
```

If we try to search another record which is not there in db.csv then it will give error:



```

+-----+
|           MENU           |
+-----+
|Press 1 | Create Database|
|Press 2 | Insert Record  |
|Press 3 | View Database   |
|Press 4 | Search Record    |
|Press 5 | Modify Record     |
|Press 6 | Delete Record     |
|Press 7 | Exit              |
+-----+

Enter your Requirment: 4
Enter name of DB: db.csv
Enter Email Address: jack1@gmail.com

ERROR:: Record Not Found!!

```

### Modify Record:

```

+-----+
|           MENU           |
+-----+
|Press 1 | Create Database|
|Press 2 | Insert Record  |
|Press 3 | View Database   |
|Press 4 | Search Record    |
|Press 5 | Modify Record     |
|Press 6 | Delete Record     |
|Press 7 | Exit              |
+-----+

Enter your Requirment: 5
Enter name of DB: db.csv
Enter Email Address: jack@gmail.com
Enter New Roll Number: 888899
Enter New Name: Jack john
Enter New Mobile Number: 4785987463
OLD Record: 123323          Jack Robin      jack@gmail.com  9878234564
NEW Record: 888899         Jack john     jack@gmail.com  4785987463

Success:: Record Modified !!

```

### Records before deletion:

```
Enter your Requirment: 3
Enter name of DB: db.csv
```

Roll Number	Name	Email	Mobile Number
333053	Chaitanya	chai@gmail.com	8890878904
121212	Raj Tawri	raj@gmail.com	9089098789
888899	Jack john	jack@gmail.com	4785987463
565656	Eric Roy	eric@gmail.com	8767897463

### Delete Record:

```
+-----+
|           MENU           |
+-----+
|Press 1 | Create Database|
|Press 2 | Insert Record  |
|Press 3 | View Database  |
|Press 4 | Search Record  |
|Press 5 | Modify Record  |
|Press 6 | Delete Record  |
|Press 7 | Exit           |
+-----+

Enter your Requirment: 6
Enter name of DB: db.csv
Enter Email Address: jack@gmail.com

Success:: Record Deleted!!
```

### View Records:

```
+-----+
|           MENU           |
+-----+
|Press 1 | Create Database|
|Press 2 | Insert Record  |
|Press 3 | View Database  |
|Press 4 | Search Record  |
|Press 5 | Modify Record   |
|Press 6 | Delete Record   |
|Press 7 | Exit           |
+-----+

Enter your Requirment: 3
Enter name of DB: db.csv

Roll Number    Name        Email        Mobile Number
333053         Chaitanya   chai@gmail.com 8890878904
121212         Raj Tawri   raj@gmail.com  9089098789
565656         Eric Roy    eric@gmail.com 8767897463
```

### Invalid Input:

```
+-----+
|           MENU           |
+-----+
|Press 1 | Create Database|
|Press 2 | Insert Record  |
|Press 3 | View Database  |
|Press 4 | Search Record  |
|Press 5 | Modify Record   |
|Press 6 | Delete Record   |
|Press 7 | Exit           |
+-----+

Enter your Requirment: t
ERROR:: Invalid Input
```