

CS 4350 Unix Sys Programming

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Section I (Introduction)

The team members for this project were Conner Herriges, Michael Koch, and Yinebeb Zenaw. Conner wrote the introduction of this report and the add function for the database. Michael wrote the remove, email and reorder functions in the database and section two in the report. Yinebeb wrote the find function, along with the startup function, makefile, and the initial database file. Yinebeb set up a repository on GitHub, and we coordinated our code in that manner. We communicated mostly through email, and the issue tracking features in Git. We also communicated in person in a limited capacity either before or after class.

Section II (Task I)

Our database was designed to be small and be similar to a csv file, but entries are separated by colons instead of commas. The first line of the file lists what information is in each column, the next and rest of the lines contain actual information that the database was meant to hold. The first field in the database contains a person's first and last name, the next field contains the person's address, the next has the phone number and the last contains the email. Any of the fields can be used to find the rest of the information about the person. A ten entry sample of our fifty entry database is provided below.

```
Name:Address:Phone:email
Joshua Brown:42404 Transport Center:380-(605)964-4223:jbrown0@desdev.cn
Margaret Elliott:24 Forest Plaza:48-(269)541-4040:melliott1@toplist.cz
Gary Flores:76868 Westport Drive:86-(478)534-8313:gflores2@reference.com
Jacqueline Bishop:41 Farwell Court:55-(702)550-2960:jbishop3@acquirethisname.com
Kathleen Burns:3120 Fordem Plaza:7-(667)301-3054:kburns4@about.com
Lillian Kelly:5 Westridge Trail:86-(261)381-3983:lkelly5@mysql.com
Matthew Hall:1152 Pepper Wood Crossing:504-(960)487-3446:mhall6@cisco.com
Norma Fuller:156 Merry Road:57-(148)929-0056:nfuller7@pcworld.com
Victor Cole:9 Browning Road:86-(347)664-7342:vcole8@berkeley.edu
```

Section III (Task II)

We have five functions: add, delete, find, update, and email

Add function adds a record and appends the results to the end of the database

Delete function removes a record from the database

Update will update any column of any record as long as it is found

Find will find in the appropriate column all occurrences of a string and display the corresponding records to the user.

Email will find you in the database and then display all other users with the same email provider.

Update

1. Ask the user how they want to find the record

```
how do you want to find the record?
(u) user
(a) address
(p) phone number
(e) email address
(g) general search
(c) cancel
>u
```

2. Asks the user to enter the search term then displays all occurrences

```
Please enter your search term::R
13:Ruth George:769 Warbler Circle:54-(450)787-6248:rgeorgeb@constantcontact.com
15:Maria Robertson:123 Fairfield Pass:7-(732)558-1502:mrobertson@slideshare.net
20:Theresa Rose:2546 Shelley Way:237-(339)777-0952:trosei@washingtonpost.com
21:Paul Ross:215 Springs Center:93-(743)639-1977:prossj@ebay.com
32:Martha Rose:508 Green Ridge Hill:55-(456)493-7080:mrosev@trellian.com
33:Angela Ray:2349 Independence Pass:86-(556)640-9345:arayw@hubpages.com
38:Richard Phillips:8 Hoffman Plaza:86-(599)625-6779:rphillips11@stumbleupon.com
39:Rebecca Patterson:308 Buell Street:420-(900)684-1253:rpatterson12@com.com
44:Kathryn Rivera:6982 Leroy Trail:34-(567)561-6902:krivera17@tinypic.com
```

3. Then ask the user to pick the record they would like to edit
4. Ask the user to select which field they want to change

```
Please select the line number of the record you would like to edit
>15
Name:Address:Phone:email
Maria Robertson:123 Fairfield Pass:7-(732)558-1502:mrobertson@slideshare.net
what field would you like to change?
(u) user
(a) address
(p) phone number
(e) email address
(c cancel)

```

5. Ask the user what they would like to change their selection to

```
what would you like to change it to?
David Sanches
updating record
The record has been updated
David Sanches:123 Fairfield Pass:7-(732)558-1502:mrobertson@slideshare.net
```

6. The function will then display the updated record and quit with exit code 0

Section IV (Task III)

```
#!/bin/bash
#find the user
```

```

#checks for valid arguments
#needs to have at least two arguments passed
if [ $# -lt 2 ]; then
    echo "Too few arguments passed to "$0" " 1>&2
    exit 1
fi

search=""
for i in $@;do
    # $1 is the search column >$2 are search terms
    if [ $i == $1 ];then
        continue
    fi
    #takes all but the first argument from the command line
    #and appends them for the search
    search=$search " "$i
done
#search has a blank space add to the beginning used to remove the first blank
search="$ {search:1}"

function getuserid
{
    #1) cut on the appropriate column in db.dat
    #2) grep the column looking for the designated string
        #in any part of the file once found adding the line it was found on
    #3)cut the first column so that we can print the results
    records=$(cut -d: -f1 db.dat | grep -n "$search" | cut -d: -f1)
}
function getaddress
{
    records=$(cut -d: -f2 db.dat | grep -n "$search" | cut -d: -f1)
}
function getphone
{
    records=$(cut -d: -f3 db.dat | grep -n "$search" | cut -d: -f1)
}

function getemail
{
    records=$(cut -d: -f1 db.dat | grep -n "$search" | cut -d: -f1)
}

```

```

#searches the appropriate columns
if [[ "$1" = "u" ]] ; then
    getuserid

elif [[ "$1" = "a" ]] ; then
    getaddress

elif [[ "$1" = "p" ]] ; then
    getphone

elif [[ "$1" = "e" ]] ; then
    getemail

else
    echo "Select 'user' 'address' 'phone' 'email'"

fi

##final echo
#if records is zero then no records were found
if [ -z "$records" ]; then
    echo "No matches found"
    exit 2
fi
#prints out the matched lines
for i in $records; do
    sed -n "$i"p db.dat
done

exit 0

```

1) Finding an exact match

a) exact match on name

```

[> Prog-UNIX (master) * yinebebenaw$ ./find.sh u Loggan Smith
Loggan Smith:1798 harper drive:873-987-2342:noneya@gmail.com
Loggan Smith:2345 Hill side ranch Rd:678-345-9645:loggans@gmail.com

```

2) Multiple matches

a) multiple matches based on partial string

```

[> Prog-UNIX (master) * yinebebenaw$ ./find.sh u Pa
Paul Ross:215 Springs Center:93-(743)639-1977:prossj@ebay.com
Pamela McCoy:1 Mosinee Center:51-(320)262-5827:pmccoyr@google.com.br
Rebecca Patterson:308 Buell Street:420-(900)684-1253:rpatterson12@com.com

```

3) No matches found

a) String Zz is does exist anywhere in the name column

```
[>] prog-101 (master) * yinebebzenaw$ ./find.sh u Zz  
No matches found
```