Deadline

Mon May 24 17:00:00 GMT-8 2004

Learning Keywords

variables, if, case, $#, $n, echo, grep, head, |, >, >>.

Your Task

In this assignment, you are required to re-implement Question 2 in Practical Test 1 using bash shell script. Please read the following requirement carefully as some assumptions have changed.

You will implement a file-based simple database that stores records about students. The database will be implemented as a *text* file where each line is a record. You will write a shell script for bash named `db.sh` that manipulates the student records stored in the text file. A student record consists of a *name*, *userid*, *age* and *CAP*. There is no restriction on the length of *name* and *userid*. There is no restriction on the number of records in the database.

Your program should manipulate the database using three operations, *add*, *find* and *delete*. Usage specification for your program is given below.

- q2 add *db name userid age cap*
  Append a record specified by *name*, *userid*, *age* and *cap* to the end of text file named *db*. If the database *db* does not exist, create a new file. Example usage:

  ```
  $ q2 add student.db "Tan Ah Kow" tanahkow 19 4.5
  ```

  The given userid may already exist in the database, but you will append anyway. You can assume the inputs are always valid (*age* is a valid integer, and *cap* is a valid floating point number). Note that by putting quotes around "Tan Ah Kow", Tan Ah Kow will be treated as one single argument rather than three.

- q2 find *db userid*
  Find the student record with *userid* from database *db*. If the record cannot be found, print nothing. Otherwise, print out the name, userid, age and cap of the *first* matching record as formatted below.

  ```
  $ q2 find student.db tanahkow
  Tan Ah Kow tanahkow 19 4.5
  ```

- q2 delete *db userid*
  Find the student record with *userid* from database *db*. If the record cannot be found, print an appropriate error. Otherwise, delete *all* records with student *userid* from *db*.

```
$ q2 delete student.db tanahkow
$ q2 delete student.db tanahkow
No such student tanahkow in student.db
```

- If the first command line argument is neither add, delete nor find, or if total number of arguments does not match, print an appropriate error message.

Submission Requirement

You are required to submit the encrypted version of your shell script db.sh. Make sure you have read the submission instruction document posted on CS2281 website. For this assignment, create a subdirectory under $HOME/CS2281_LABs/ called a4 and put your encrypted files under the subdirectory. You must include your name as a comment in the *second* line of your files (Since first line is sha-bang). I will access your submission through the pathname $HOME/CS2281_LABs/a4/db.sh.pgp. It is your responsibility to make sure that the filenames are correct and permissions are set properly according to the instructions given.

Additional Tips

- You may find the following commands and options useful: echo, grep (options: -c, -w, -v) and head.

- If you make additional assumptions, please state them clearly.