

Bash Script Programs

(Due: April 19)

Write a Bash script to perform each task described below. Your scripts should follow the conventions of Linux commands so they can be used just like Linux commands. In addition, they should be able to handle command line errors as stated in the exceptions section.

1. Write a Bash script called *newname* to change the name of a file, but if the destination file exists, it creates an index number to append to the name of the destination file, sort of version number. Suppose that the user types a command line as shown below (where the \$ sing is the shell prompt):

```
$newname a.txt b.txt
```

Its intention is to change the filename from a.txt to b.txt. However, if file b.txt exists, your script will try to rename it as b.txt.1. If b.txt.1 is already there, it will try b.txt.2, and so on, until it can successfully rename the file to a name that has not been used by any file in the current working directory.

Exceptions: (1) incorrect number of command-line arguments; (2) a non-existing file is given as the first argument.

2. Create a Bash script named *booklist* as described below:

```
$booklist filename
```

Script *booklist* is to create, edit, and display entries in a booklist. Each entry in a booklist contains three fields, namely, author, title, and year, which are delimited by colon (:). Command line argument *filename* is a file that contains a list of books. If the file does not exist, *booklist* creates one under that name. Also, this script displays a menu with the following options and allows the user to make as many selections as one wants:

- Search the booklist for entries by author
- Add a new entry to the booklist
- Delete an entry from the booklist (using title as the key)
- Display all entries and the number of entries in the booklist
- Exit

A sample data file is attached to this project, which contains data as shown below:

Peter Coad:Java Design:2010

Cay Hoarstmann:Core Java – Vol 1:2011

Cay Hoarstmann:Core Java – Vol 2:2012

Mark Sobell:A Practical Guide to Linux:2014

Sample output from the Display option is given below. Note that entries are sorted first by last name and then by year.

<i>Peter Coad</i>	<i>Java Design</i>	<i>2010</i>
<i>Cay Horstmann</i>	<i>Core Java 2 - Vol I</i>	<i>2011</i>
<i>Cay Horstmann</i>	<i>Core Java 2 - Vol II</i>	<i>2012</i>
<i>Mark Sobell</i>	<i>A Practical Guide to Linux</i>	<i>2014</i>
<i>Total:</i>	<i>4 entries</i>	

Exceptions: (1) No argument is provided on the command line; (2) Argument filename is neither a readable nor a modifiable file; (3) Adding an entry that is already in the file; (4) Deleting an entry that is not there.

When your program works correctly, make a Word or PDF file that includes both of your scripts and their test results for submission.