

Spring 2005: CS 344 – UNIX Operating System Fundamentals
Homework-2

100 points. Due Mar 7, 2005. Individual work only.

1. Using the *vi* editor type the following text and save it to the file *quizscores* in the directory *hw2* (under *cs344*). Note that the individual fields in a row are separated by tabs and each row contains numerical values for {Code, Quiz1, Quiz2, Quiz3, Quiz4}. [10 points]

```
2134 90    36    90    77
4532 11    17    81    32
1234 52    70    100   78
9893 34     9     77    78
7874 60    100   56    78
6134 34     80    55    78
```

2. Using the *vi* editor type the following text and save it to the file *homework* in the directory *hw2* (under *cs344*). Note that the individual fields in a row are separated by “:” and each row contains values for {Code, HW1, HW2, HW3, HW4}. [10 points]

```
2134:45:40:88:55
4532:55:50:99:80
1234:22:70:100:77
9893:89:50:91:60
7874:11:11:0:10
6134:0:89:89:20
```

3. Edit the file *quizscores* using *vi* and add a new column for Quiz 5 scores after the last column. The values to be entered under the Quiz 5 column are: 30, 77, 34, 20, 78, and 34. Note that you must insert tab before inserting the values. [5 points]
4. If the scores for HW5 are in a separate file called *homework5*, using one of the UNIX utilities add these values as the last column to the file *homework*. Note that the new values should be entered after inserting a “:”. Write down the command used and include the contents of the file after the change. The contents of the file *homework5* are: [5 points]

```
23
78
45
68
96
56
```

5. Using one of the UNIX utilities combine the values from the two files (*quizscores* and *homework*) and create a new file *scoresheet* that has the combined fields separated by “:” and sorted based on the “Code” field. The format for the file *scoresheet* must be as shown below:

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Code:Quiz1:HW1:Quiz2:HW2:Quiz3:HW3:Quiz4:HW4:Quiz5:HW5

Write a shell script to perform this operation and include the contents of the file *scoresheet*. Note that you should not create any temporary files and the results of the specified operation should be displayed on the screen as well as written to the file *scoresheet*. The script should print the following: [30 points]

No. of entries in file quizscores = #

No. of entries in file homework = #

New scoresheet:

Code:Quiz1:HW1:Quiz2:HW2:Quiz3:HW3:Quiz4:HW4:Quiz5:HW5

<code and scores here in the format shown above>

6. For the following operations write down the command used along with the options and the output produced: [20 points (5 points each)]
 - a. Display only the student code and the corresponding scores for Quiz5 for the file *quizscores*
 - b. Display student records for students who have received 100 on either a quiz or an exam using the file *scoresheet*
 - c. Replace the delimiter “:” in the file *scoresheet* with a tab
 - d. Given the file *scoresheet* create two separate files *file1* and *file2* for quiz scores and homework scores (code field should be present in both files)

7. For the following commands explain what action is performed and write down the output produced: [20 points (5 points each)]
 - a. `cp ~puri/yppasswd ~/spring2005/cs344/hw2/`
 - b. `cd ~/spring2005/cs344/hw2; cut -d':' -f5 yppasswd | cut -d',' -f1 | sort +1 | tee users`
 - c. `grep -n -i -v cs330 yppasswd`
 - d. `tr ':' '\t' < yppasswd`