

Surname, Name:

Section:

Student No:

**Closed Book, closed note exam.** You are required to write down commands with necessary arguments and options; and make sure that they work. Your script and output should match. Give the best result that you can give!

SIGNATURE

.....

Time of Submission:

**Prelude:** Before solving questions you should:

- let NAME be your FirstLast name as ascii (MAkgul, ASOzgur, LMessi, LionelMessi)

- create NAME directory

- script NAME/NAME.Log

```
cd /NAME
```

```
use wget http://lab4t.ctis.bilkent.edu.tr/Download/LabQ3.zip
```

```
use wget http://liste.ctis.bilkent.edu.tr/courses/486/LabQ3.zip
```

- use: history -c

- Your working directory will be Name, files that you operate on will be in Name. Your answers will be written under NAME.

When you finish:

```
use: history > NAME/History.txt
```

you will zip NAME directory with command

```
cd ; zip -r NAME NAME
```

- upload NAME.zip

**You need to have History.txt, Name.Log and Cevaplar as separate bash script files, which are checked and run. Make sure it works correctly**

**If not you would loose most of the credits**

**Consider the last digit of your student ID, and let it be K.**

**Then let k=1 if K=0, 3, 6, 9; k=2 if K=1, 4, 7 and k=3 if K=2, 5, 8**

**you will be working with mail.k otherwise stated.**

Consider a conference system with user "chair" is the Chairman of Conference. There are authors and Reviewers. The file **tablo** contains lines of the form:

```
id:Rev1info;Rev2info;Rev3info
```

We may have 1 Reviewer or many. Each Reviewer-info contains e-mail address and name which is separated by ";", and space in name is replaced by - .

When authors uploads a file, system send a mail to chair as shown in mail.1, mail.2, and mail.3 files. we want to write a bash script which will mail to each reviewer an e-mail saying that "paper with id such-and-such is uploaded"

**Your task is to write such a script and place in mail system.**

You might do the following steps and combine them in a bash script.

**this was quiz that we solved in class. We will have similar small questions about the same problem and similar concepts**

You can not use any editor within scripts (such as nano, vi etc). Because Scripts will work without human intervention. You can use any program that works on standard input of file . You can use sed, awk, grep etc. in tablo, number of reviewers can change in each line, and size of header part of mail changes in each message.

**you can name shell files as 5b2.sh for question 5, b) section, second method**

1. select the correct line in mail.k using : (the line similar to **Submission ID 789 has been uploaded.**
  - a)grep, b) sed, c) awk ; write the output into 1a.txt, 1b.txt, 1c.txt
  - b) just do it with grep on mail.0 and write onto 1d.txt
2. instead of storing in a file, just store in a shell variable e1, f1 (just choose one of grep, sed or awk ) and work mail.k and mail.0. (**I must see result of**

```
echo "E $e1"
```

**and**

```
echo "F $f1"
```

) in History, Log and Cevaplar
3. a) Given 1a.txt, how would you obtain Submission ID (say 8, 28, 310), as id, give more than one method if you can
  - b) how would you obtain from e1
4. a) How would you obtain Submission ID from mail.k in a single step via **awk** (no pipe is allowed). write the result in a4.txt,
  - b) How would you store in shell variable a4
5. How would you obtain from mail.k files header.k and body.k ? Header is the beginning part of mail message including first empty line, and body is the rest. Save the resulting files as header.txt and body.txt
6. How would you determine that there is no Submission ID. It other words:
  - a) how would you determine whether a file is empty? Give as many methods as you can (you

can test on files bos.txt and dolu.txt)

a) how would test whether shell variable id is empty

7. If there is no submission id (as in mail.0), how would you finish the process with a message to standard output (exit 0); that is test id for emptiness if yes exit the process, if not empty follow the next line (for the small shell file echo " ID is (its value) "
8. select the line from "tablo" containing "id" found above and pick collection of Reviewer-info's in file rev-all.txt  
Do it with alternative ways if possible (rev-all-1.txt, rev-all-2.txt etc)
9. identify each Reviewerinfo which is separated by ";", in a temporary file , say, revs.txt, each line contains different reviewers
10. separate each Reviewerinfo as bash variables address, and name; and obtain AdSoyad which is name where it contains space " " instead of "-";, i.e replace -'s with " "  
and for each reviewer; echo AdSoyad and address, ( do as many different methods as you can )
11. given address and AdSoyad ( you can set them for this part as you wish)

send a message as:

To: address

Subject: File uploaded

Dear AdSoyad,

Author of submission identified by id has been upload

Regards

The Chair

(id will be what you found, using shell variable id )

12. Suppose you wrote and placed the above script as /usr/bin/myyap, how would you activate this script ? which file do you work, and what do you write in it ?, which additional command you issue ? (total 15 points)

You may use several shell variables, small scripts or auxiliary files. For each incoming mail you may use temporary files in /tmp. Recall that \$\$ gives process id of the running process, so that you can use files such a . \$\$.

Each part worth 7 points if not specified.