Name: Section: Student No:

    Closed Book, closed note exam. Closed Internet, open computer. Show your work! we must follow your reasoning.

You are required to write down commands with necessary arguments and options. Give the best result that you can give!

    EQW means **Each question worths** Each question worths 5 points unless stated otherwise.

    I certify that this is my own work only.

Name: ....

Signature: ....

Time of submission : ....

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    Unless otherwise stated, assume that you are using the bash shell.

1. On the computer that you are a system admin, you want to serve CTIS.net as master and ctis.org.tr as slave. Master server for ctis.org.tr has IP 100.110.120.150. Write necessary configuration in named.conf or named.conf.local

2. `<GroupA>` suppose you own domain ctis.web.tr You have machines ank.ctis.web.tr (70.90.150.110), ist.ctis.web.tr (180.190.150.210), and izm.ctis.web.tr (130.140.150.160) write part of zone file for ctis.web.tr for each question

   - You want to have all three machines to serve as NS server.

- Each machine must serve as www.ctis.web.tr (as identical webs). Moreover http://ctis.web.tr/ must be identical to www.ctis.web.tr and will be served only by ank.ctis.web.tr. In addition ank will serve as ftp.ctis.org.tr (ftp and http), and ist as video.ctis.web.tr (http) and izm as game.ctis.web.tr (http).

  Write the necessary DNS records for zone file. $\boxed{\textbf{10 pts}}$

- ank.ctis.web.tr. will be main MX server. izm will be next level MX server; ie. it will server when ank is not available.

  write necessary MX records

- Assume that ank is the master NS server. write a suitable SOA record.

```
</GroupA>
```

3. Given the above information, write down minimal virtual host definitions for ank.ctis.web.tr satisfying the above conditions and

   www.ctis.web.tr and ctis.web.tr start at /var/www/web and ank.ctis.web.tr. will start at /var/www/ank/ **10 pts**

4. Write a Bash script which will take a name; check whether it exists, if not will give a message and exit. If it exists, and if it is directory, it will print output of **du -s DIR** If it is file it will print its size. Else it will print "it is not a file or directory" and exit. **10 pts**

5. Assume you have several hundred picture files with suffix JPEG in the current directory. Suppose program jpg2png will transform a jpg file into png file (as `jpg2png <a > b` will obtain from jpeg file a, png file b).

   You want to transform all files with suffix into png files with suffix jpg (i.e. from file a.JPEG we will obtain a.png). write a bash script for this purpose.

6. Write a bash script which will print some of its arguments: 3, 7, 11, 15, ... etc., when number of arguments is less then 3 it will print "That's all folks" and stop.

7. We want to duplicate directory /home/tasma/depo into /var/yedek/depo. How would you achieve this using : (assume you are in /home/tasma/depo, /var/yedek/depo exits and you have the necessary permissions., you are not allowed to use auxiliary files, and use relative addressing for source) `<GroupD>`

   - tar

   - cpio

   - rsync

   - cp

   `</GroupD>`

8. Given a text file X, we want find lines containing string Internet write to file Y. How would you achieve this using **Sed**

9. In data.txt you have as a sample,

```
lab    mid1 mid2 final   Name (aciklama)
 30    45   70   50      Ali
 40    60   40   80      Ayse
 80    80   60   80      Filiz
 50    40   90   20      Fatma
 60    70   50   70      Elif
```

`aciklama` is for information. It is not part of data.txt

- For each student we want compute weighted sum 0.10*lab+0.25*mid1 + 0.25 * mid2 + 0.4 * final. write an Awk script to compute weighted and print **name sum** into file data1.txt.

```
Ali     69
Ayse    62
Filiz   74
Fatma   47
Elif    63
```

- Using sort; find the largest and smallest weighted sum and names of these corresponding students.

- using data1 or otherwise find median sum and corresponding student name (median means, for a group of 5, 3 element of the sorted list). For simplicity assume NR = 99.

```
Highest 74 Filiz
Lowest 47 Fatma
median 63.  Elif
```