Homework 2

TO: D Webster Esq.
FROM: Jonas Zhonghan Xie (SA Team)
SUBJECT: RE: Please Confirm Received Files

Hi D Webster,

Thank you for reaching out. I am able to access the files. The answers to your questions regarding the files are as follows:

1. There are no directories or files that start with the lowercase "z" in the `world` directory.

```
jonasxie@ip-172-31-78-96:~$ ls
week2  welcome.txt
jonasxie@ip-172-31-78-96:~$ cd week2
jonasxie@ip-172-31-78-96:~/week2$ ls
company  world
jonasxie@ip-172-31-78-96:~/week2$ cd world
jonasxie@ip-172-31-78-96:~/week2/world$ ls z*
ls: cannot access 'z*': No such file or directory
jonasxie@ip-172-31-78-96:~/week2/world$ ls z*/
ls: cannot access 'z*/': No such file or directory
```

2. We can use `ls -R` to recursively list all the files both in directory and subdirectories. Here I just attached part of the terminal output in the screenshot below.

```
jonasxie@ip-172-31-78-96:~/week2/world$ ls -R
.:
ABW  ATA  BGR  BTN  COD  CZE  ESP  GEO  GTM  IND  KAZ  LBY  MDA  MOZ  NFK  PAN  PSE  SGS  SVK  TKL  UKR  VUT
AFG  ATF  BHR  BVT  COG  DEU  EST  GHA  GUF  IOT  KEN  LCA  MDG  MRT  NGA  PCN  PYF  SHN  SVN  TKM  UMI  WLF
AGO  ATG  BHS  BWA  COK  DJI  ETH  GIB  GUM  IRL  KGZ  LIE  MDV  MSR  NIC  PER  QAT  SJM  SWE  TMP  URY  WSM
AIA  AUS  BIH  CAF  COL  DMA  FIN  GIN  GUY  IRN  KHM  LKA  MEX  MTQ  NIU  PHL  REU  SLB  SWZ  TON  USA  YEM
ALB  AUT  BLR  CAN  COM  DNK  FJI  GLP  HKG  IRQ  KIR  LSO  MHL  MUS  NLD  PLW  ROM  SLE  SYC  TTO  UZB  YUG
AND  AZE  BLZ  CCK  CPV  DOM  FLK  GMB  HMD  ISL  KNA  LTU  MKD  MWI  NOR  PNG  RUS  SLV  SYR  TUN  VAT  ZAF
ANT  BDI  BMU  CHE  CRI  DZA  FRA  GNB  HND  ISR  KOR  LUX  MLI  MYS  NPL  POL  RWA  SMR  TCA  TUR  VCT  ZMB
ARE  BEL  BOL  CHL  CUB  ECU  FRO  GNQ  HRV  ITA  KWT  LVA  MLT  MYT  NRU  PRI  SAU  SOM  TCD  TUV  VEN  ZWE
ARG  BEN  BRA  CHN  CXR  EGY  FSM  GRC  HTI  JAM  LAO  MAC  MMR  NAM  NZL  PRK  SDN  SPM  TGO  TWN  VGB
ARM  BFA  BRB  CIV  CYM  ERI  GAB  GRD  HUN  JOR  LBN  MAR  MNG  NCL  OMN  PRT  SEN  STP  THA  TZA  VIR
ASM  BGD  BRN  CMR  CYP  ESH  GBR  GRL  IDN  JPN  LBR  MCO  MNP  NER  PAK  PRY  SGP  SUR  TJK  UGA  VNM

./ABW:
Capital.txt  Continent.txt  GovernmentForm.txt  LifeExpectancy.txt  Population.txt  cp.txt
Code.txt     GNP.txt         HeadOfState.txt     LocalName.txt       Region.txt
Code2.txt    GNPOld.txt      IndepYear.txt       Name.txt            SurfaceArea.txt

./AFG:
Capital.txt  Continent.txt  GovernmentForm.txt  LifeExpectancy.txt  Population.txt  cp.txt
Code.txt     GNP.txt         HeadOfState.txt     LocalName.txt       Region.txt      flag.png
Code2.txt    GNPOld.txt      IndepYear.txt       Name.txt            SurfaceArea.txt

./AGO:
Capital.txt  Continent.txt  GovernmentForm.txt  LifeExpectancy.txt  Population.txt  cp.txt
Code.txt     GNP.txt         HeadOfState.txt     LocalName.txt       Region.txt      flag.png
Code2.txt    GNPOld.txt      IndepYear.txt       Name.txt            SurfaceArea.txt
```

3. We can use `ls -l` to list the details of each file in the directory, including the file size. The size of each file is displayed in the fifth column. The sizes are all in bytes. For example, the size of file `Capital.txt`

is 4 bytes. Here I attached the screenshot below.

```
jonasxie@ip-172-31-78-96:~/week2/world$ cd USA
jonasxie@ip-172-31-78-96:~/week2/world/USA$ ls -lh
total 88K
-rw-rw-r-- 1 jonasxie jonasxie   4 Feb  2 06:30 Capital.txt
-rw-rw-r-- 1 jonasxie jonasxie   3 Feb  2 06:30 Code.txt
-rw-rw-r-- 1 jonasxie jonasxie   2 Feb  2 06:30 Code2.txt
-rw-rw-r-- 1 jonasxie jonasxie  13 Feb  2 06:30 Continent.txt
-rw-rw-r-- 1 jonasxie jonasxie  10 Feb  2 06:30 GNP.txt
-rw-rw-r-- 1 jonasxie jonasxie  10 Feb  2 06:30 GNPOld.txt
-rw-rw-r-- 1 jonasxie jonasxie  16 Feb  2 06:30 GovernmentForm.txt
-rw-rw-r-- 1 jonasxie jonasxie  14 Feb  2 06:30 HeadOfState.txt
-rw-rw-r-- 1 jonasxie jonasxie   4 Feb  2 06:30 IndepYear.txt
-rw-rw-r-- 1 jonasxie jonasxie   4 Feb  2 06:30 LifeExpectancy.txt
-rw-rw-r-- 1 jonasxie jonasxie  13 Feb  2 06:30 LocalName.txt
-rw-rw-r-- 1 jonasxie jonasxie  13 Feb  2 06:30 Name.txt
-rw-rw-r-- 1 jonasxie jonasxie   9 Feb  2 06:30 Population.txt
-rw-rw-r-- 1 jonasxie jonasxie  13 Feb  2 06:30 Region.txt
-rw-rw-r-- 1 jonasxie jonasxie  10 Feb  2 06:30 SurfaceArea.txt
-rw-rw-r-- 1 jonasxie jonasxie  10 Feb  2 06:30 cp.txt
-rw-rw-r-- 1 jonasxie jonasxie 21K Feb  2 06:30 flag.png
```

4. In the `ZWE` directory, all the `.txt` files can be viewed using `less` as they are all text files. The graph file `flag.png` cannot be viewed using `less` as it is an image file. `less` cannot render image files.

```
jonasxie@ip-172-31-78-96:~/week2/world/USA$ cd ..
jonasxie@ip-172-31-78-96:~/week2/world$ cd ZWE
jonasxie@ip-172-31-78-96:~/week2/world/ZWE$ ls -lh
total 104K
-rw-rw-r-- 1 jonasxie jonasxie   4 Feb  2 06:30 Capital.txt
-rw-rw-r-- 1 jonasxie jonasxie   3 Feb  2 06:30 Code.txt
-rw-rw-r-- 1 jonasxie jonasxie   2 Feb  2 06:30 Code2.txt
-rw-rw-r-- 1 jonasxie jonasxie   6 Feb  2 06:30 Continent.txt
-rw-rw-r-- 1 jonasxie jonasxie   7 Feb  2 06:30 GNP.txt
-rw-rw-r-- 1 jonasxie jonasxie   7 Feb  2 06:30 GNPOld.txt
-rw-rw-r-- 1 jonasxie jonasxie   8 Feb  2 06:30 GovernmentForm.txt
-rw-rw-r-- 1 jonasxie jonasxie  16 Feb  2 06:30 HeadOfState.txt
-rw-rw-r-- 1 jonasxie jonasxie 18K Feb  2 06:30 History.txt
-rw-rw-r-- 1 jonasxie jonasxie   4 Feb  2 06:30 IndepYear.txt
-rw-rw-r-- 1 jonasxie jonasxie   4 Feb  2 06:30 LifeExpectancy.txt
-rw-rw-r-- 1 jonasxie jonasxie   8 Feb  2 06:30 LocalName.txt
-rw-rw-r-- 1 jonasxie jonasxie   8 Feb  2 06:30 Name.txt
-rw-rw-r-- 1 jonasxie jonasxie   8 Feb  2 06:30 Population.txt
-rw-rw-r-- 1 jonasxie jonasxie  14 Feb  2 06:30 Region.txt
-rw-rw-r-- 1 jonasxie jonasxie   9 Feb  2 06:30 SurfaceArea.txt
-rw-rw-r-- 1 jonasxie jonasxie   6 Feb  2 06:30 cp.txt
-rw-rw-r-- 1 jonasxie jonasxie 18K Feb  2 06:30 flag.png
```

5. We use `-h` setting to display the file size in human-readable format. So we use `ls -lh` to list the files in the `IND` directory. The size of the files ranges from 2 bytes to 18KB. Here I attached the screenshot

below.

```
jonasxie@ip-172-31-78-96:~/week2/world/ZWE$ cd ..
jonasxie@ip-172-31-78-96:~/week2/world$ cd IND
jonasxie@ip-172-31-78-96:~/week2/world/IND$ ls -lh
total 84K
-rw-rw-r-- 1 jonasxie jonasxie   4 Feb  2 06:30 Capital.txt
-rw-rw-r-- 1 jonasxie jonasxie   3 Feb  2 06:30 Code.txt
-rw-rw-r-- 1 jonasxie jonasxie   2 Feb  2 06:30 Code2.txt
-rw-rw-r-- 1 jonasxie jonasxie   4 Feb  2 06:30 Continent.txt
-rw-rw-r-- 1 jonasxie jonasxie   9 Feb  2 06:30 GNP.txt
-rw-rw-r-- 1 jonasxie jonasxie   9 Feb  2 06:30 GNPOld.txt
-rw-rw-r-- 1 jonasxie jonasxie  16 Feb  2 06:30 GovernmentForm.txt
-rw-rw-r-- 1 jonasxie jonasxie  24 Feb  2 06:30 HeadOfState.txt
-rw-rw-r-- 1 jonasxie jonasxie   4 Feb  2 06:30 IndepYear.txt
-rw-rw-r-- 1 jonasxie jonasxie   4 Feb  2 06:30 LifeExpectancy.txt
-rw-rw-r-- 1 jonasxie jonasxie  12 Feb  2 06:30 LocalName.txt
-rw-rw-r-- 1 jonasxie jonasxie   5 Feb  2 06:30 Name.txt
-rw-rw-r-- 1 jonasxie jonasxie  10 Feb  2 06:30 Population.txt
-rw-rw-r-- 1 jonasxie jonasxie  25 Feb  2 06:30 Region.txt
-rw-rw-r-- 1 jonasxie jonasxie  10 Feb  2 06:30 SurfaceArea.txt
-rw-rw-r-- 1 jonasxie jonasxie   9 Feb  2 06:30 cp.txt
-rw-rw-r-- 1 jonasxie jonasxie 18K Feb  2 06:30 flag.png
```

6. Bluma Comellas employee has the ID number of 99944. The detailed information of the employee is listed in the attached screenshot below.

```
emp_no:99944
birth_date:1960-03-03
first_name:Bluma
last_name:Comellas
gender:F
hire_date:1985-02-02
s.emp_no:99944
salary:40000
from_date:1985-02-02
to_date:1986-02-02
99944.txt (END)
```

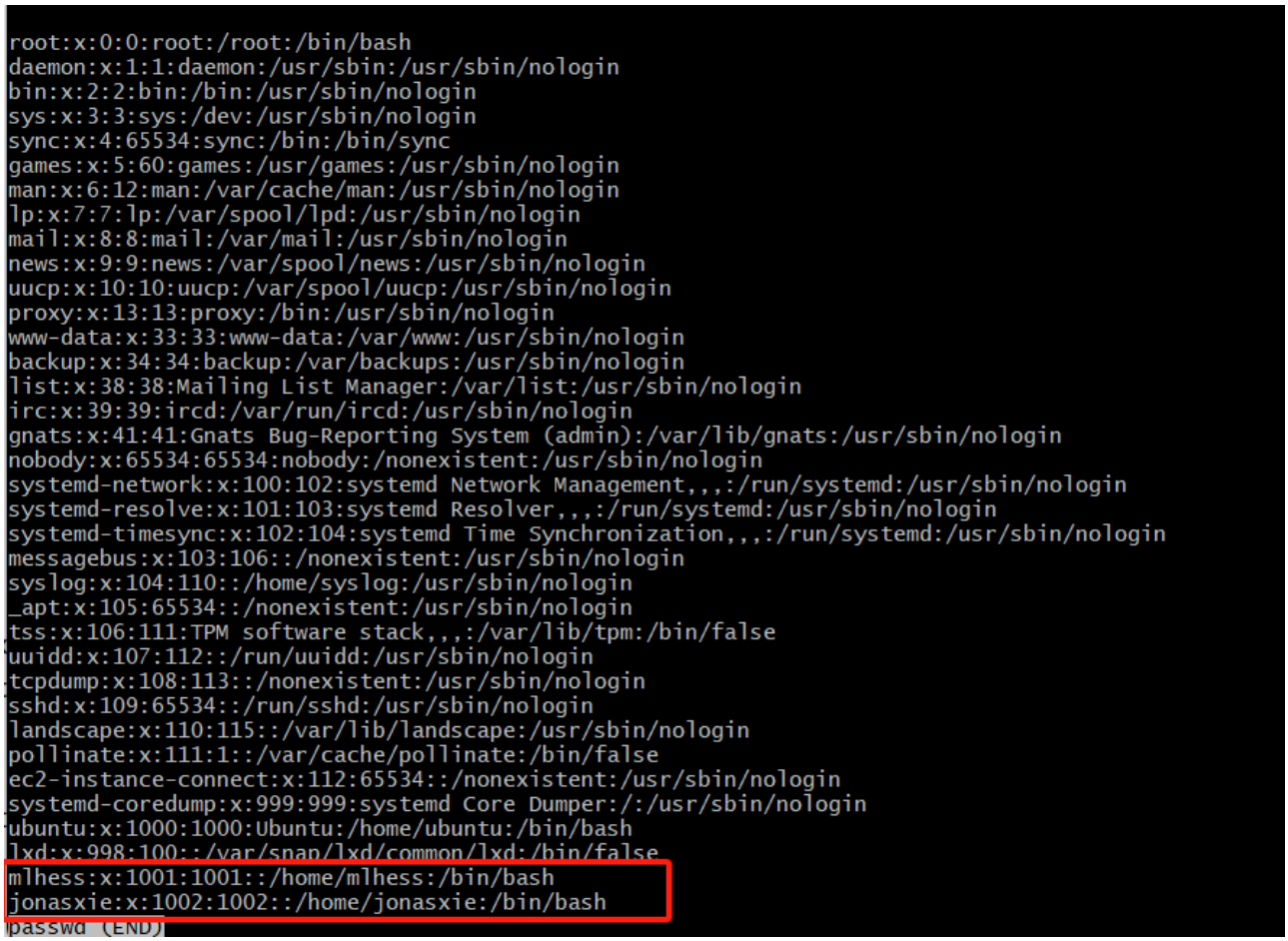
I follow these steps to find the employee:

```
jonasxie@ip-172-31-78-96:~/week2/world/IND$ cd ..
jonasxie@ip-172-31-78-96:~/week2/world$ cd ..
jonasxie@ip-172-31-78-96:~/week2$ cd company
jonasxie@ip-172-31-78-96:~/week2/company$ ls 99944*
99944.txt
jonasxie@ip-172-31-78-96:~/week2/company$ less 99944.txt
```

7. The sizes of the files which start with the number 9 are listed in the attached screenshot below. The sizes of the files are all about 170-175 bytes.

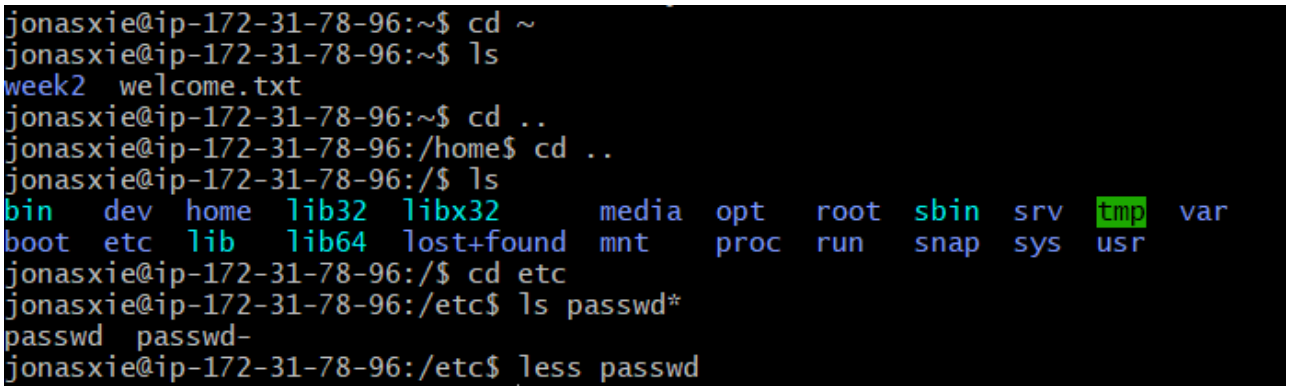
```
jonasxie@ip-172-31-78-96:~/week2/company$ ls -lh 9*
-rw-rw-r-- 1 jonasxie jonasxie 170 Feb  2 06:30 90056.txt
-rw-rw-r-- 1 jonasxie jonasxie 172 Feb  2 06:30 90699.txt
-rw-rw-r-- 1 jonasxie jonasxie 172 Feb  2 06:30 90740.txt
-rw-rw-r-- 1 jonasxie jonasxie 168 Feb  2 06:30 90749.txt
-rw-rw-r-- 1 jonasxie jonasxie 172 Feb  2 06:30 91535.txt
-rw-rw-r-- 1 jonasxie jonasxie 172 Feb  2 06:30 91590.txt
-rw-rw-r-- 1 jonasxie jonasxie 166 Feb  2 06:30 91619.txt
-rw-rw-r-- 1 jonasxie jonasxie 169 Feb  2 06:30 91840.txt
-rw-rw-r-- 1 jonasxie jonasxie 168 Feb  2 06:30 94060.txt
-rw-rw-r-- 1 jonasxie jonasxie 169 Feb  2 06:30 94857.txt
-rw-rw-r-- 1 jonasxie jonasxie 169 Feb  2 06:30 95215.txt
-rw-rw-r-- 1 jonasxie jonasxie 170 Feb  2 06:30 95331.txt
-rw-rw-r-- 1 jonasxie jonasxie 171 Feb  2 06:30 95575.txt
-rw-rw-r-- 1 jonasxie jonasxie 175 Feb  2 06:30 95599.txt
-rw-rw-r-- 1 jonasxie jonasxie 172 Feb  2 06:30 95767.txt
-rw-rw-r-- 1 jonasxie jonasxie 171 Feb  2 06:30 95867.txt
-rw-rw-r-- 1 jonasxie jonasxie 170 Feb  2 06:30 96250.txt
-rw-rw-r-- 1 jonasxie jonasxie 170 Feb  2 06:30 96308.txt
-rw-rw-r-- 1 jonasxie jonasxie 168 Feb  2 06:30 96355.txt
-rw-rw-r-- 1 jonasxie jonasxie 173 Feb  2 06:30 96485.txt
-rw-rw-r-- 1 jonasxie jonasxie 167 Feb  2 06:30 96576.txt
-rw-rw-r-- 1 jonasxie jonasxie 167 Feb  2 06:30 97479.txt
-rw-rw-r-- 1 jonasxie jonasxie 167 Feb  2 06:30 97944.txt
-rw-rw-r-- 1 jonasxie jonasxie 169 Feb  2 06:30 98006.txt
-rw-rw-r-- 1 jonasxie jonasxie 172 Feb  2 06:30 98061.txt
-rw-rw-r-- 1 jonasxie jonasxie 171 Feb  2 06:30 98103.txt
-rw-rw-r-- 1 jonasxie jonasxie 173 Feb  2 06:30 98224.txt
-rw-rw-r-- 1 jonasxie jonasxie 170 Feb  2 06:30 98233.txt
-rw-rw-r-- 1 jonasxie jonasxie 168 Feb  2 06:30 98351.txt
-rw-rw-r-- 1 jonasxie jonasxie 170 Feb  2 06:30 98604.txt
-rw-rw-r-- 1 jonasxie jonasxie 168 Feb  2 06:30 99845.txt
-rw-rw-r-- 1 jonasxie jonasxie 169 Feb  2 06:30 99944.txt
```

8. The class instructor Prof. Michael Hess also has the access to the server. His unique name `mlhess` can be found in the list of the user.



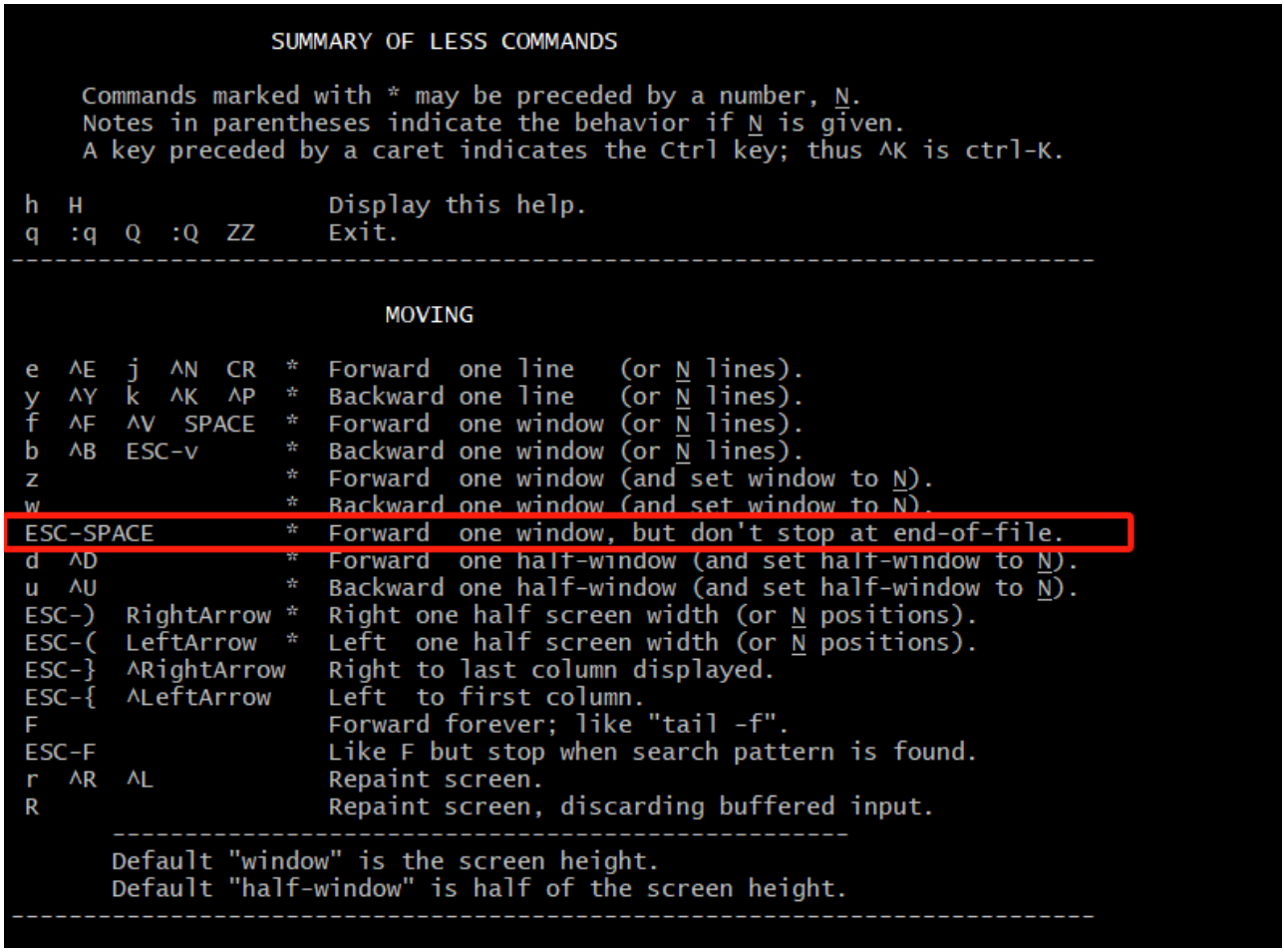
Considering about the sensitive data on the server, it might be better the double check his clearance for the data.

I followed these steps to find the users:



9. Press `ESC` and the space bar in the `less` command to scroll down one page at a time. It will not stop at the end of the file. You can find it in the `less` help file using `less --help`. Here I attached part of the

help file below.



```
                  SUMMARY OF LESS COMMANDS

      Commands marked with * may be preceded by a number, N.
      Notes in parentheses indicate the behavior if N is given.
      A key preceded by a caret indicates the Ctrl key; thus ^K is ctrl-K.

  h  H                 Display this help.
  q  :q  Q  :Q  ZZ     Exit.
 ---------------------------------------------------------------------------

                           MOVING

  e  ^E  j  ^N  CR  *  Forward  one line   (or N lines).
  y  ^Y  k  ^K  ^P  *  Backward one line   (or N lines).
  f  ^F  ^V  SPACE  *  Forward  one window (or N lines).
  b  ^B  ESC-v      *  Backward one window (or N lines).
  z                 *  Forward  one window (and set window to N).
  w                 *  Backward one window (and set window to N).
  ESC-SPACE         *  Forward  one window, but don't stop at end-of-file.
  d  ^D             *  Forward  one half-window (and set half-window to N).
  u  ^U             *  Backward one half-window (and set half-window to N).
  ESC-)  RightArrow *  Right one half screen width (or N positions).
  ESC-(  LeftArrow  *  Left  one half screen width (or N positions).
  ESC-}  ^RightArrow   Right to last column displayed.
  ESC-{  ^LeftArrow    Left  to first column.
  F                    Forward forever; like "tail -f".
  ESC-F                Like F but stop when search pattern is found.
  r  ^R  ^L            Repaint screen.
  R                    Repaint screen, discarding buffered input.
        ---------------------------------------------------
        Default "window" is the screen height.
        Default "half-window" is half of the screen height.
 ---------------------------------------------------------------------------
```

Please let me know if you have further questions about access the data. Thank you so much!

Best,

Jonas