NAME : CH.YESWANTH
ROLL NO :422131
SECTION :A

UNIX ASSIGNMENT 07

2. Write a shell script that list the memory usage and cpu usage of multiple machines.

SECOND.SH

```bash
#!/bin/bash

machines=("student@192.168.24.147" "student@192.168.24.123")

for machine in "${machines[@]}"; do
    echo "Memory and CPU usage for $machine:"

    echo "Memory Usage:"
    ssh "$machine" 'free -m'

    echo "CPU Usage:"
    ssh "$machine" 'mpstat'

    echo
done
```
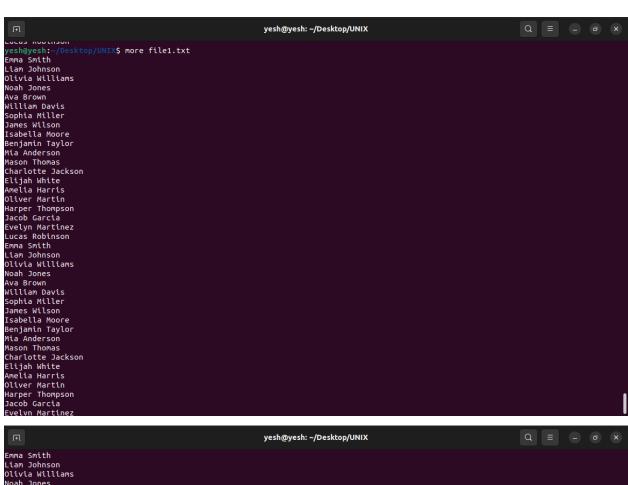
```
yesh@yesh:~/Desktop/UNIX$ ./second.sh
Memory and CPU usage for student@192.168.24.147:
Memory Usage:
student@192.168.24.147's password:
              total        used        free      shared  buff/cache   available
Mem:           7718        2123        3579          12        2014        5310
Swap:          2047           0        2047
CPU Usage:
student@192.168.24.147's password:
Linux 5.15.0-101-generic (da-OptiPlex-7070)     05/04/24        _x86_64_        (8 CPU)

03:13:05 PM IST  CPU    %usr   %nice   %sys %iowait    %irq   %soft  %steal  %guest  %gnice   %idle
03:13:05 PM IST  all    0.53    0.02   0.16    0.79    0.00    0.00    0.00    0.00    0.00   98.50

Memory and CPU usage for student@192.168.24.123:
Memory Usage:
student@192.168.24.123's password:
              total        used        free      shared  buff/cache   available
Mem:           7757        1367        4961          18        1429        6079
Swap:          2047           0        2047
CPU Usage:
student@192.168.24.123's password:
Linux 4.15.0-213-generic (nit-OptiPlex-7070)    Friday 05 April 2024    _x86_64_        (8 CPU)

03:13:28  IST  CPU    %usr   %nice   %sys %iowait    %irq   %soft  %steal  %guest  %gnice   %idle
03:13:28  IST  all    0.64    0.00   0.62    0.25    0.00    0.00    0.00    0.00    0.00   98.48

yesh@yesh:~/Desktop/UNIX$ █
```

1. Write shell script for commands :
more,nl,nice,passwd,pr,rlogin,rcp,rsh,talk,telnet,tput,tty,uname,wc,who,write

MORE COMMAND

```
Lucas Robinson
yesh@yesh:~/Desktop/UNIX$ more file1.txt
Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore
Benjamin Taylor
Mia Anderson
Mason Thomas
Charlotte Jackson
Elijah White
Amelia Harris
Oliver Martin
Harper Thompson
Jacob Garcia
Evelyn Martinez
Lucas Robinson
Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore
Benjamin Taylor
Mia Anderson
Mason Thomas
Charlotte Jackson
Elijah White
Amelia Harris
Oliver Martin
Harper Thompson
Jacob Garcia
Evelyn Martinez
```

```
Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore
Benjamin Taylor
Mia Anderson
Mason Thomas
Charlotte Jackson
Elijah White
Amelia Harris
Oliver Martin
Harper Thompson
Jacob Garcia
Evelyn Martinez
Lucas Robinson
Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore
Benjamin Taylor
Mia Anderson
Mason Thomas
Charlotte Jackson
Elijah White
Amelia Harris
Oliver Martin
Harper Thompson
Jacob Garcia
Evelyn Martinez
--More--(38%)
```

```
Lucas Robinson
Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore
Benjamin Taylor
Mia Anderson
Mason Thomas
Charlotte Jackson
Elijah White
Amelia Harris
Oliver Martin
Harper Thompson
Jacob Garcia
Evelyn Martinez
Lucas Robinson
Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore
Benjamin Taylor
Mia Anderson
Mason Thomas
Charlotte Jackson
Elijah White
Amelia Harris
Oliver Martin
Harper Thompson
Jacob Garcia
--More--(77%)
```

```
yesh@yesh:~/Desktop/UNIX$ more -n 20 file1.txt
Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore
Benjamin Taylor
Mia Anderson
Mason Thomas
Charlotte Jackson
Elijah White
Amelia Harris
Oliver Martin
Harper Thompson
Jacob Garcia
Evelyn Martinez
Lucas Robinson
--More--(20%)
```

```
yesh@yesh:~/Desktop/UNIX$ more +10 file1.txt
Benjamin Taylor
Mia Anderson
Mason Thomas
Charlotte Jackson
Elijah White
Amelia Harris
Oliver Martin
Harper Thompson
Jacob Garcia
Evelyn Martinez
Lucas Robinson
Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore
Benjamin Taylor
Mia Anderson
Mason Thomas
Charlotte Jackson
Elijah White
Amelia Harris
Oliver Martin
Harper Thompson
```

NL COMMAND

```
yesh@yesh:~/Desktop/UNIX$ nl file1.txt
     1  Emma Smith
     2  Liam Johnson
     3  Olivia Williams
     4  Noah Jones
     5  Ava Brown
     6  William Davis
     7  Sophia Miller
     8  James Wilson
     9  Isabella Moore
    10  Benjamin Taylor
    11  Mia Anderson
    12  Mason Thomas
    13  Charlotte Jackson
    14  Elijah White
    15  Amelia Harris
    16  Oliver Martin
    17  Harper Thompson
    18  Jacob Garcia
    19  Evelyn Martinez
    20  Lucas Robinson
    21  Emma Smith
    22  Liam Johnson
    23  Olivia Williams
    24  Noah Jones
    25  Ava Brown
    26  William Davis
    27  Sophia Miller
    28  James Wilson
    29  Isabella Moore
    30  Benjamin Taylor
    31  Mia Anderson
    32  Mason Thomas
    33  Charlotte Jackson
    34  Elijah White
    35  Amelia Harris
    36  Oliver Martin
    37  Harper Thompson
```

```
    100  Lucas Robinson
yesh@yesh:~/Desktop/UNIX$ nl --body-numbering=n file1.txt
        Emma Smith
        Liam Johnson
        Olivia Williams
        Noah Jones
        Ava Brown
        William Davis
        Sophia Miller
        James Wilson
        Isabella Moore
        Benjamin Taylor
        Mia Anderson
        Mason Thomas
        Charlotte Jackson
        Elijah White
        Amelia Harris
        Oliver Martin
        Harper Thompson
        Jacob Garcia
        Evelyn Martinez
        Lucas Robinson
        Emma Smith
        Liam Johnson
        Olivia Williams
        Noah Jones
        Ava Brown
        William Davis
        Sophia Miller
        James Wilson
        Isabella Moore
```

```
or available locally via: info '(coreutils) nl invocation
yesh@yesh:~/Desktop/UNIX$ nl -v 10 file1.txt
    10  Emma Smith
    11  Liam Johnson
    12  Olivia Williams
    13  Noah Jones
    14  Ava Brown
    15  William Davis
    16  Sophia Miller
    17  James Wilson
    18  Isabella Moore
    19  Benjamin Taylor
    20  Mia Anderson
    21  Mason Thomas
    22  Charlotte Jackson
    23  Elijah White
    24  Amelia Harris
    25  Oliver Martin
    26  Harper Thompson
    27  Jacob Garcia
    28  Evelyn Martinez
    29  Lucas Robinson
    30  Emma Smith
```

```
                                   yesh@yesh:~/Desktop/UNIX$ nl -i 2 file1.txt
     1  Emma Smith
     3  Liam Johnson
     5  Olivia Williams
     7  Noah Jones
     9  Ava Brown
    11  William Davis
    13  Sophia Miller
    15  James Wilson
    17  Isabella Moore
    19  Benjamin Taylor
    21  Mia Anderson
    23  Mason Thomas
    25  Charlotte Jackson
    27  Elijah White
    29  Amelia Harris
    31  Oliver Martin
    33  Harper Thompson
    35  Jacob Garcia
    37  Evelyn Martinez
    39  Lucas Robinson
    41  Emma Smith
    43  Liam Johnson
    45  Olivia Williams
    47  Noah Jones
    49  Ava Brown
```

NICE COMMAND

```
yesh@yesh:~$ nice -n 18 ls
Desktop  Documents  Downloads  Music  Pictures  Public  snap  Templates  Videos
yesh@yesh:~$ cd Desktop
yesh@yesh:~/Desktop$ cd UNIX
yesh@yesh:~/Desktop/UNIX$ nice -n 10 cat file1.txt
Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore
Benjamin Taylor
Mia Anderson
Mason Thomas
Charlotte Jackson
Elijah White
Amelia Harris
Oliver Martin
Harper Thompson
Jacob Garcia
Evelyn Martinez
Lucas Robinson
Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore
```

PRINTING NICENESS OF CURRENT PROCESSES

```
yesh@yesh:~/Desktop/UNIX$ ps -eo "%n"
 NI
  0
  0
-20
-20
-20
-20
  0
-20
  0
  0
-20
  0
  0
  0
  0
  0
  -
  -
```

PASSWD

```
yesh@yesh:~$ passwd
Changing password for yesh.
Current password:
New password:
Retype new password:
passwd: password updated successfully
yesh@yesh:~$
```

PR

```
or available locally via info '(coreutils) pr invocation'
yesh@yesh:~/Desktop/UNIX$ pr file1.txt


2024-04-05 22:27                    file1.txt                         Page 1


Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore
Benjamin Taylor
Mia Anderson
Mason Thomas
Charlotte Jackson
Elijah White
Amelia Harris
Oliver Martin
Harper Thompson
Jacob Garcia
Evelyn Martinez
Lucas Robinson
Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore
Benjamin Taylor
Mia Anderson
```

Harper Thompson
Jacob Garcia
Evelyn Martinez
Lucas Robinson
Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore
Benjamin Taylor
Mia Anderson
Mason Thomas
Charlotte Jackson
Elijah White
Amelia Harris
Oliver Martin
Harper Thompson
Jacob Garcia
Evelyn Martinez
Lucas Robinson
Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore

```
yesh@yesh:~/Desktop/UNIX$ pr -t file1.txt
Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore
Benjamin Taylor
Mia Anderson
Mason Thomas
Charlotte Jackson
Elijah White
Amelia Harris
Oliver Martin
Harper Thompson
Jacob Garcia
Evelyn Martinez
Lucas Robinson
Emma Smith
Liam Johnson
Olivia Williams
Noah Jones
Ava Brown
William Davis
Sophia Miller
James Wilson
Isabella Moore
```

```
yesh@yesh:~/Desktop/UNIX$ pr -o 10 file1.txt


          2024-04-05 22:27                    file1.txt                        Page 1


          Emma Smith
          Liam Johnson
          Olivia Williams
          Noah Jones
          Ava Brown
          William Davis
          Sophia Miller
          James Wilson
          Isabella Moore
          Benjamin Taylor
          Mia Anderson
          Mason Thomas
          Charlotte Jackson
          Elijah White
          Amelia Harris
          Oliver Martin
          Harper Thompson
          Jacob Garcia
          Evelyn Martinez
          Lucas Robinson
          Emma Smith
          Liam Johnson
          Olivia Williams
          Noah Jones
          Ava Brown
          William Davis
          Sophia Miller
```

```
yesh@yesh:~/Desktop/UNIX$ pr -3 file1.txt

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Emma Smith            Amelia Harris         James Wilson
Liam Johnson          Oliver Martin         Isabella Moore
Olivia Williams       Harper Thompson       Benjamin Taylor
Noah Jones            Jacob Garcia          Mia Anderson
Ava Brown             Evelyn Martinez       Mason Thomas
William Davis         Lucas Robinson        Charlotte Jackson
Sophia Miller         Emma Smith            Elijah White
James Wilson          Liam Johnson          Amelia Harris
Isabella Moore        Olivia Williams       Oliver Martin
Benjamin Taylor       Noah Jones            Harper Thompson
Mia Anderson          Ava Brown             Jacob Garcia
Mason Thomas          William Davis         Evelyn Martinez
Charlotte Jackson     Sophia Miller         Lucas Robinson
Elijah White          James Wilson          Emma Smith
Amelia Harris         Isabella Moore        Liam Johnson
Oliver Martin         Benjamin Taylor       Olivia Williams
Harper Thompson       Mia Anderson          Noah Jones
Jacob Garcia          Mason Thomas          Ava Brown
Evelyn Martinez       Charlotte Jackson     William Davis
Lucas Robinson        Elijah White          Sophia Miller
Emma Smith            Amelia Harris         James Wilson
Liam Johnson          Oliver Martin         Isabella Moore
```

```
yesh@yesh:~/Desktop/UNIX$ pr -t -o 10 file1.txt
          Emma Smith
          Liam Johnson
          Olivia Williams
          Noah Jones
          Ava Brown
          William Davis
          Sophia Miller
          James Wilson
          Isabella Moore
          Benjamin Taylor
          Mia Anderson
          Mason Thomas
          Charlotte Jackson
          Elijah White
          Amelia Harris
          Oliver Martin
          Harper Thompson
          Jacob Garcia
          Evelyn Martinez
          Lucas Robinson
          Emma Smith
          Liam Johnson
          Olivia Williams
          Noah Jones
          Ava Brown
          William Davis
          Sophia Miller
          James Wilson
          Isabella Moore
          Benjamin Taylor
          Mia Anderson
          Mason Thomas
          Charlotte Jackson
          Elijah White
          Amelia Harris
          Oliver Martin
```
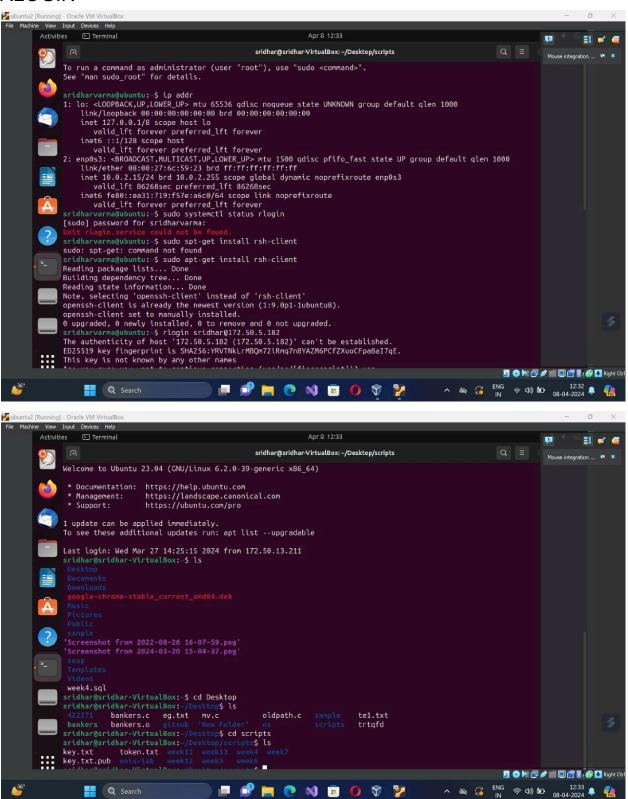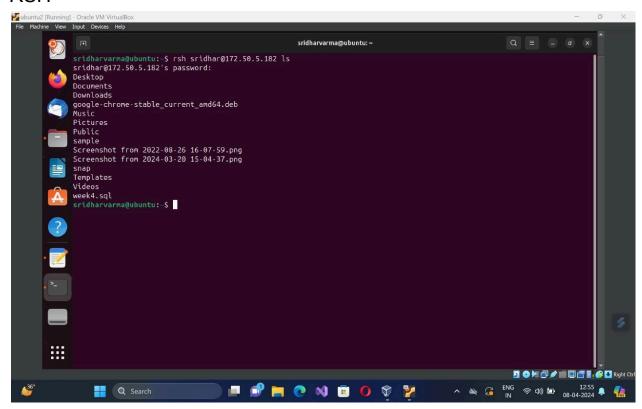
Rsync COMMAND(instead of rcp)

```
sridharvarma@ubuntu:~$ sudo rsync -avz /home/sridharvarma/Desktop/eg2.txt sridhar@172.50.5.182:/home/Desktop
sridhar@172.50.5.182's password:
sending incremental file list

sent 75 bytes  received 12 bytes  19.33 bytes/sec
total size is 29  speedup is 0.33
sridharvarma@ubuntu:~$
```
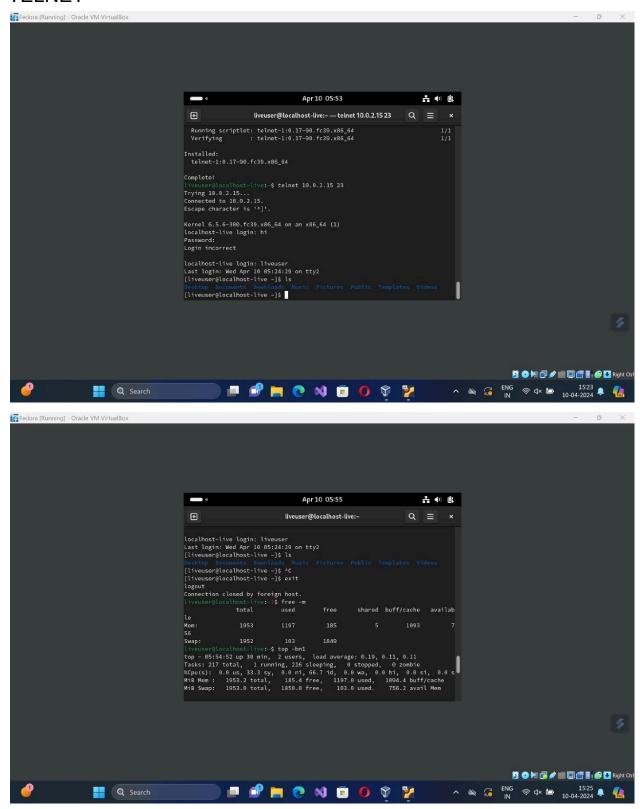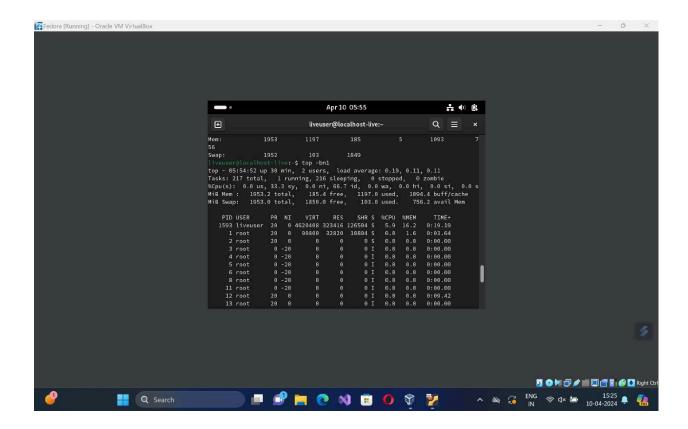
RLOGIN

RSH

TALK

TELNET

TPUT

```
yesh@yesh:~/Desktop/UNIX$ tput -V init
ncurses 6.3.20211021
yesh@yesh:~/Desktop/UNIX$ tput -S
init
^C
yesh@yesh:~/Desktop/UNIX$ tput clear
```

TTY

```
yesh@yesh:~/Desktop/UNIX$ tty
/dev/pts/1
yesh@yesh:~/Desktop/UNIX$ tty -s
```

UNAME

```
yesh@yesh:~$ uname -a
Linux yesh 6.5.0-27-generic #28~22.04.1-Ubuntu SMP PREEMPT_DYNAMIC Fri Mar 15 10:51:06 UTC 2 x86_64 x86_64 x86_64 GNU/Linux
yesh@yesh:~$ uname
Linux
yesh@yesh:~$ uname -s
Linux
yesh@yesh:~$ uname -p
x86_64
yesh@yesh:~$ uname -m
x86_64
yesh@yesh:~$ uname-o
uname-o: command not found
yesh@yesh:~$ uname -o
GNU/Linux
```

WC

```
or available locally via: info '(coreutils) wc invocation
yesh@yesh:~/Desktop/UNIX$ wc file1.txt
 100  200 1390 file1.txt
yesh@yesh:~/Desktop/UNIX$ wc -c file1.txt
1390 file1.txt
yesh@yesh:~/Desktop/UNIX$ wc -m file1.txt
1390 file1.txt
yesh@yesh:~/Desktop/UNIX$ wc -l file1.txt
100 file1.txt
yesh@yesh:~/Desktop/UNIX$ wc -w filw1.txt
wc: filw1.txt: No such file or directory
yesh@yesh:~/Desktop/UNIX$ wc -w file1.txt
200 file1.txt
```

WHO

```
or available locally via: info '(coreutils) who invocation
yesh@yesh:~/Desktop/UNIX$ who -a
           system boot  2024-04-08 08:45
           run-level 5  2024-04-08 08:45
yesh      + tty2         2024-04-08 08:45 00:18          1291 (tty2)
           pts/0         2024-04-08 09:03               3136 id=ts/0  term=0 exit=100
yesh@yesh:~/Desktop/UNIX$ who -b
        system boot  2024-04-08 08:45
yesh@yesh:~/Desktop/UNIX$ who -l
yesh@yesh:~/Desktop/UNIX$ who -u
yesh      tty2         2024-04-08 08:45 00:19          1291 (tty2)
yesh@yesh:~/Desktop/UNIX$ who -d
        pts/0         2024-04-08 09:03               3136 id=ts/0  term=0 exit=100
```

WRITE

```
yesh@yesh:~$ who
yesh     tty2         2024-04-10 15:10 (tty2)
test     tty3         2024-04-10 15:16 (tty3)
yesh@yesh:~$ write test
hio
hldij
gyuoadh
yesh@yesh:~$
```