

Name: Maimoona Khilji

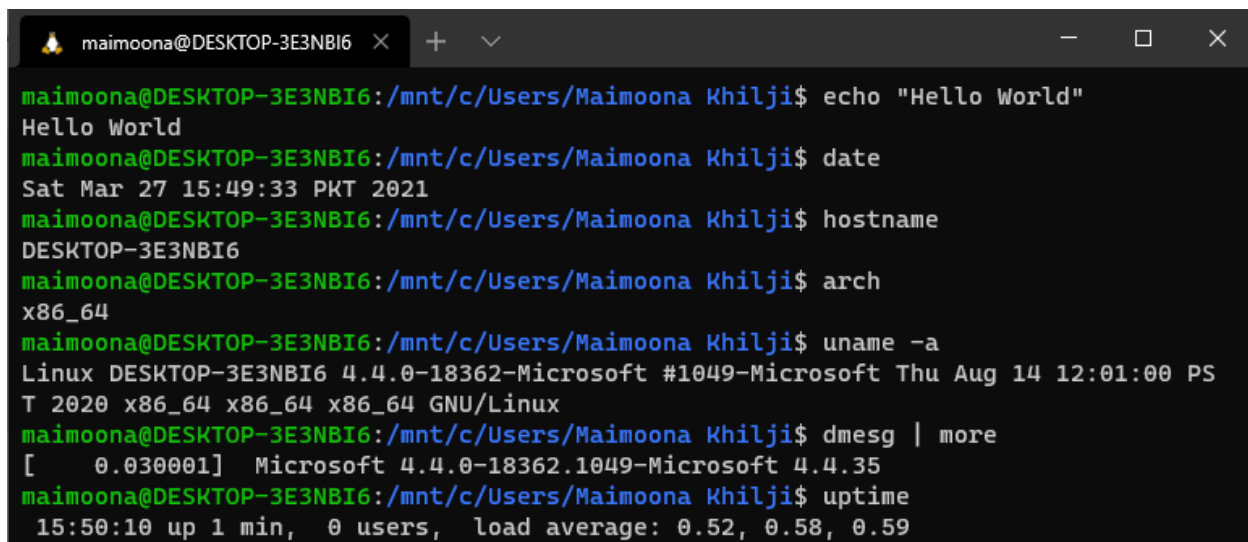
Program: BS-Data Science

## Operating System – Lab 02

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1. Log on a Linux machine or connect to one from a Windows machine.
2. Enter these commands at the UNIX prompt, and try to interpret the output. Ask questions and don't be afraid to experiment (as a normal user you cannot do much harm):

- `echo hello world` ←
- `date` ←
- `hostname` ←
- `arch` ←
- `uname -a` ←
- `dmesg | more` ← (you may need to press `q` to quit)
- `uptime` ←



```
maimoona@DESKTOP-3E3NBI6 x + - □ ×  
maimoona@DESKTOP-3E3NBI6:/mnt/c/Users/Maimoona Khilji$ echo "Hello World"  
Hello World  
maimoona@DESKTOP-3E3NBI6:/mnt/c/Users/Maimoona Khilji$ date  
Sat Mar 27 15:49:33 PKT 2021  
maimoona@DESKTOP-3E3NBI6:/mnt/c/Users/Maimoona Khilji$ hostname  
DESKTOP-3E3NBI6  
maimoona@DESKTOP-3E3NBI6:/mnt/c/Users/Maimoona Khilji$ arch  
x86_64  
maimoona@DESKTOP-3E3NBI6:/mnt/c/Users/Maimoona Khilji$ uname -a  
Linux DESKTOP-3E3NBI6 4.4.0-18362-Microsoft #1049-Microsoft Thu Aug 14 12:01:00 PS  
T 2020 x86_64 x86_64 x86_64 GNU/Linux  
maimoona@DESKTOP-3E3NBI6:/mnt/c/Users/Maimoona Khilji$ dmesg | more  
[ 0.030001] Microsoft 4.4.0-18362.1049-Microsoft 4.4.35  
maimoona@DESKTOP-3E3NBI6:/mnt/c/Users/Maimoona Khilji$ uptime  
15:50:10 up 1 min, 0 users, load average: 0.52, 0.58, 0.59
```

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- who ←
- id ←
- last ←
- w ←
- top ← (you may need to press q to quit)

```
maimoona@DESKTOP-3E3NBI6: /mnt/c/Users/Maimoona Khilji$ whoami
maimoona
maimoona@DESKTOP-3E3NBI6: /mnt/c/Users/Maimoona Khilji$ id
uid=1000(maimoona) gid=1000(maimoona) groups=1000(maimoona),4(adm),20(dialout),24(cdrom),25(floppy),27(sudo),29(audio),30(dip),44(video),46(plugdev),117(netdev)
maimoona@DESKTOP-3E3NBI6: /mnt/c/Users/Maimoona Khilji$ last

wtmp begins Sat Mar 13 15:29:20 2021
maimoona@DESKTOP-3E3NBI6: /mnt/c/Users/Maimoona Khilji$ w
 15:53:16 up 4 min,  0 users,  load average: 0.52, 0.58, 0.59
USER      TTY      FROM          LOGIN@   IDLE   JCPU   PCPU   WHAT
maimoona@DESKTOP-3E3NBI6: /mnt/c/Users/Maimoona Khilji$ top
top - 15:53:28 up 4 min,  0 users,  load average: 0.52, 0.58, 0.59
Tasks:   4 total,   1 running,   3 sleeping,   0 stopped,   0 zombie
%Cpu(s): 16.8 us,   5.9 sy,   0.0 ni,  75.7 id,   0.0 wa,   1.5 hi,   0.0 si,   0.0 st
MiB Mem : 4017.5 total,   839.2 free,  2954.3 used,   224.0 buff/cache
MiB Swap: 7434.1 total,  6896.3 free,   537.8 used.  932.6 avail Mem

  PID USER      PR  NI   VIRT   RES    SHR S  %CPU  %MEM    TIME+  COMMAND
    1 root        20   0   8940    320    276 S   0.0   0.0   0:00.21  init
    7 root        20   0   8940    228    184 S   0.0   0.0   0:00.01  init
    8 maimoona   20   0  18076   3588   3484 S   0.0   0.1   0:00.37  bash
   34 maimoona   20   0  18908   2116   1528 R   0.0   0.1   0:00.01  top
```

- echo {con,pre}{sent,fer}{s,ed} ←
- man "automatic door" ←
- lost ←
- clear ← (it clear the terminal)

```
maimoona@DESKTOP-3E3NBI6: /mnt/c/Users/Maimoona Khilji$ echo {con,pre}{sent,fer}{s,ed}
consents consented confers conferred presents presented prefers preferred
maimoona@DESKTOP-3E3NBI6: /mnt/c/Users/Maimoona Khilji$ man "automatic door"
No manual entry for automatic door
```

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Program: BS-Data Science

o cal 2000 ←

```
maimoona@DESKTOP-3E3NBI6 × + ∨
maimoona@DESKTOP-3E3NBI6:/mnt/c/Users/Maimoona Khilji$ cal 2000
2000
    January                February                March
Su Mo Tu We Th Fr Sa    Su Mo Tu We Th Fr Sa    Su Mo Tu We Th Fr Sa
                   1              1 2 3 4 5              1 2 3 4
 2 3 4 5 6 7 8          6 7 8 9 10 11 12          5 6 7 8 9 10 11
 9 10 11 12 13 14 15    13 14 15 16 17 18 19    12 13 14 15 16 17 18
16 17 18 19 20 21 22    20 21 22 23 24 25 26    19 20 21 22 23 24 25
23 24 25 26 27 28 29    27 28 29              26 27 28 29 30 31
30 31

    April                  May                    June
Su Mo Tu We Th Fr Sa    Su Mo Tu We Th Fr Sa    Su Mo Tu We Th Fr Sa
                   1              1 2 3 4 5 6              1 2 3
 2 3 4 5 6 7 8          7 8 9 10 11 12 13          4 5 6 7 8 9 10
 9 10 11 12 13 14 15    14 15 16 17 18 19 20    11 12 13 14 15 16 17
16 17 18 19 20 21 22    21 22 23 24 25 26 27    18 19 20 21 22 23 24
23 24 25 26 27 28 29    28 29 30 31              25 26 27 28 29 30
30

    July                  August                September
Su Mo Tu We Th Fr Sa    Su Mo Tu We Th Fr Sa    Su Mo Tu We Th Fr Sa
                   1              1 2 3 4 5              1 2
 2 3 4 5 6 7 8          6 7 8 9 10 11 12          3 4 5 6 7 8 9
 9 10 11 12 13 14 15    13 14 15 16 17 18 19    10 11 12 13 14 15 16
16 17 18 19 20 21 22    20 21 22 23 24 25 26    17 18 19 20 21 22 23
23 24 25 26 27 28 29    27 28 29 30 31          24 25 26 27 28 29 30
30 31

    October                November                December
Su Mo Tu We Th Fr Sa    Su Mo Tu We Th Fr Sa    Su Mo Tu We Th Fr Sa
 1 2 3 4 5 6 7              1 2 3 4              1 2
 8 9 10 11 12 13 14        5 6 7 8 9 10 11        3 4 5 6 7 8 9
15 16 17 18 19 20 21      12 13 14 15 16 17 18      10 11 12 13 14 15 16
22 23 24 25 26 27 28      19 20 21 22 23 24 25      17 18 19 20 21 22 23
```

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- o `cal 9 1752` ← (do you notice anything unusual?)
- o `bc -l` ← (type `quit` ← or press Ctrl-d to quit)

```
maimoona@DESKTOP-3E3NBI6 x + v - □ x
maimoona@DESKTOP-3E3NBI6:/mnt/c/Users/Maimoona Khilji$ cal 9 1752
September 1752
Su Mo Tu We Th Fr Sa
          1  2 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30

maimoona@DESKTOP-3E3NBI6:/mnt/c/Users/Maimoona Khilji$ bc -l
bc 1.07.1
Copyright 1991-1994, 1997, 1998, 2000, 2004, 2006, 2008, 2012-2017 Free Sof
tware Foundation, Inc.
This is free software with ABSOLUTELY NO WARRANTY.
For details type `warranty'.
quit
maimoona@DESKTOP-3E3NBI6:/mnt/c/Users/Maimoona Khilji$
```

- o `echo 5+4 | bc -l` ←
- o `echo 5+4` ←
- o `yes please` ← (you may need to press Ctrl-c to quit)

(it will print infinite time y until you quit)

- o `time sleep 5` ←

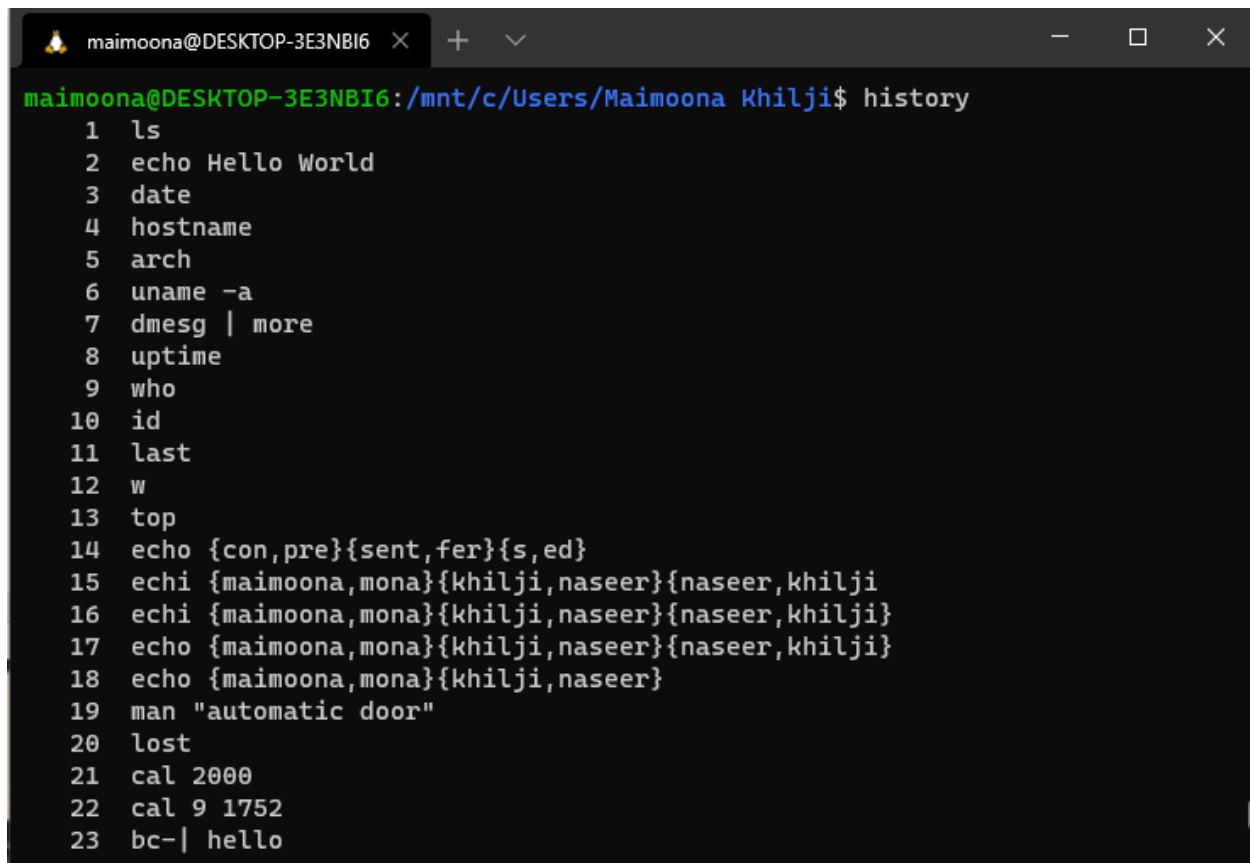
```
maimoona@DESKTOP-3E3NBI6 x + v - □ x
maimoona@DESKTOP-3E3NBI6:/mnt/c/Users/Maimoona Khilji$ echo 5+4 | bc -l
9
maimoona@DESKTOP-3E3NBI6:/mnt/c/Users/Maimoona Khilji$ echo 5+4
5+4
maimoona@DESKTOP-3E3NBI6:/mnt/c/Users/Maimoona Khilji$ time sleep 5

real    0m5.039s
user    0m0.000s
sys     0m0.000s
maimoona@DESKTOP-3E3NBI6:/mnt/c/Users/Maimoona Khilji$ |
```

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◦ history ←

A terminal window titled 'maimoona@DESKTOP-3E3NBI6' with standard window controls. The prompt is 'maimoona@DESKTOP-3E3NBI6:/mnt/c/Users/Maimoona Khilji\$'. The command 'history' has been executed, displaying a list of 23 commands numbered 1 through 23. The commands include 'ls', 'echo Hello World', 'date', 'hostname', 'arch', 'uname -a', 'dmesg | more', 'uptime', 'who', 'id', 'last', 'w', 'top', and several complex brace expansion commands, followed by 'man "automatic door"', 'lost', 'cal 2000', 'cal 9 1752', and 'bc-| hello'.

```
maimoona@DESKTOP-3E3NBI6:/mnt/c/Users/Maimoona Khilji$ history
 1  ls
 2  echo Hello World
 3  date
 4  hostname
 5  arch
 6  uname -a
 7  dmesg | more
 8  uptime
 9  who
10  id
11  last
12  w
13  top
14  echo {con,pre}{sent,fer}{s,ed}
15  echi {maimoona,mona}{khilji,naseer}{naseer,khilji
16  echi {maimoona,mona}{khilji,naseer}{naseer,khilji}
17  echo {maimoona,mona}{khilji,naseer}{naseer,khilji}
18  echo {maimoona,mona}{khilji,naseer}
19  man "automatic door"
20  lost
21  cal 2000
22  cal 9 1752
23  bc-| hello
```