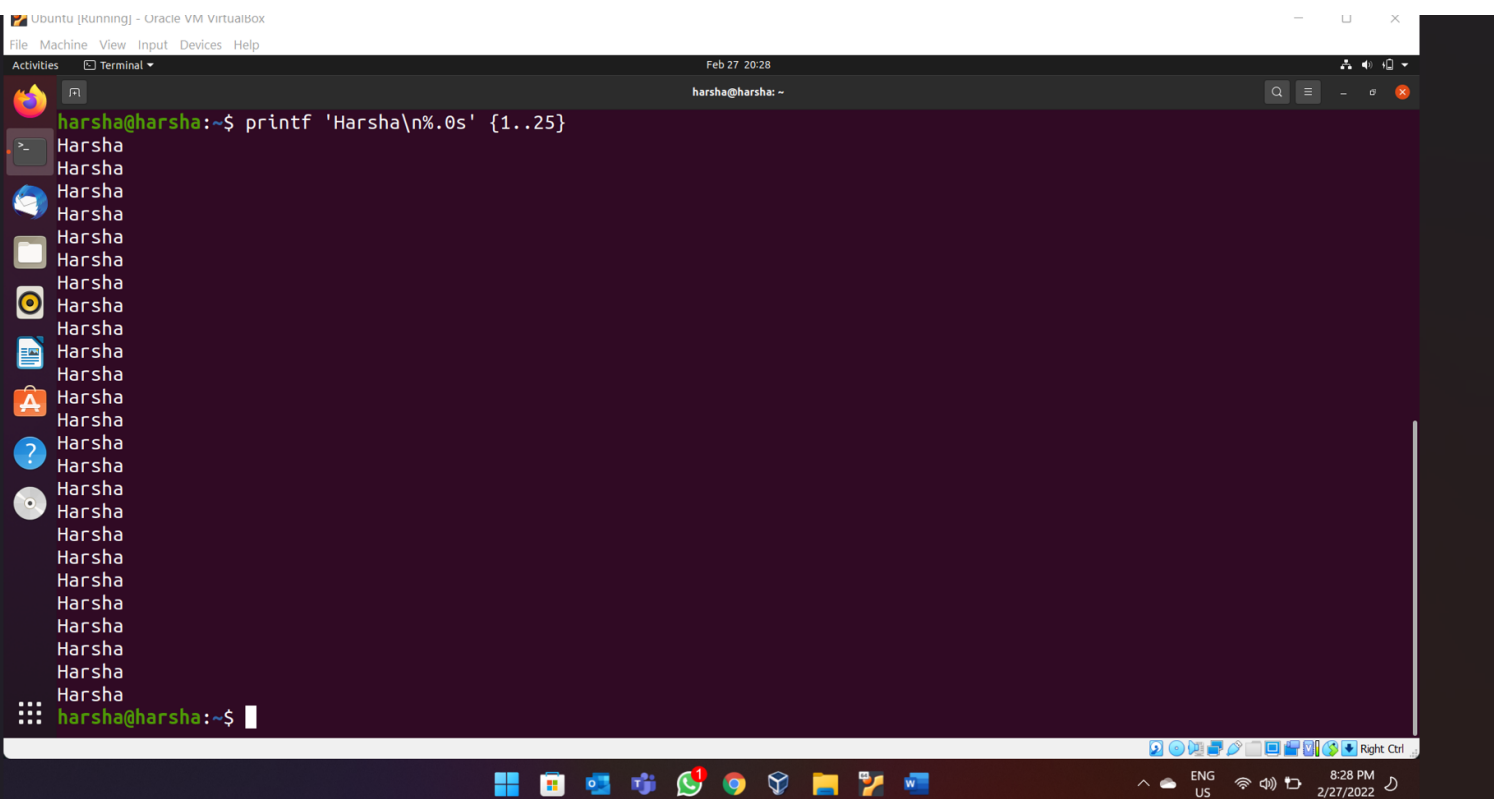


Task - 5

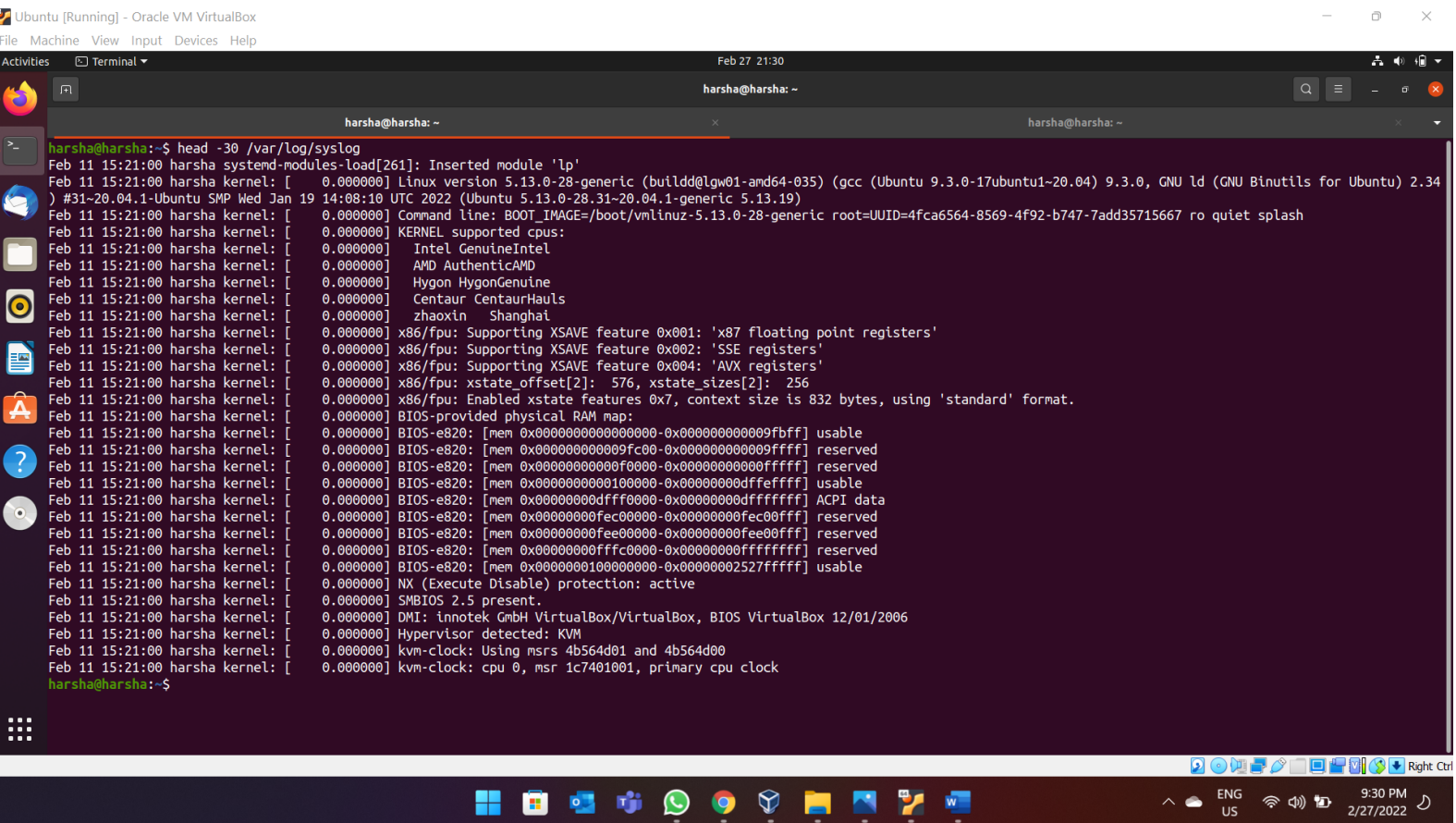
Part 2

1. `printf 'Harsha\n%.0s' {1..25}`



The screenshot shows a terminal window titled "harsha@harsha: ~" with a dark purple background. The command `harsha@harsha:~$ printf 'Harsha\n%.0s' {1..25}` has been executed, resulting in the word "Harsha" being printed 25 times, each on a new line. The terminal window is part of an Oracle VM VirtualBox environment, as indicated by the title bar "Ubuntu [Running] - Oracle VM VirtualBox". The host's taskbar is visible at the bottom, showing various application icons and the system clock indicating 8:28 PM on 2/27/2022.

2. head -30 /var/log/syslog



```
harsha@harsha:~$ head -30 /var/log/syslog
Feb 11 15:21:00 harsha systemd-modules-load[261]: Inserted module 'lp'
Feb 11 15:21:00 harsha kernel: [ 0.000000] Linux version 5.13.0-28-generic (build@lgw01-amd64-035) (gcc (Ubuntu 9.3.0-17ubuntu1-20.04) 9.3.0, GNU ld (GNU Binutils for Ubuntu) 2.34)
) #31~20.04.1-Ubuntu SMP Wed Jan 19 14:08:10 UTC 2022 (Ubuntu 5.13.0-28.31~20.04.1-generic 5.13.19)
Feb 11 15:21:00 harsha kernel: [ 0.000000] Command line: BOOT_IMAGE=/boot/vmlinuz-5.13.0-28-generic root=UUID=4fca6564-8569-4f92-b747-7add35715667 ro quiet splash
Feb 11 15:21:00 harsha kernel: [ 0.000000] KERNEL supported cpus:
Feb 11 15:21:00 harsha kernel: [ 0.000000] Intel GenuineIntel
Feb 11 15:21:00 harsha kernel: [ 0.000000] AMD AuthenticAMD
Feb 11 15:21:00 harsha kernel: [ 0.000000] Hygon HygonGenuine
Feb 11 15:21:00 harsha kernel: [ 0.000000] Centaur CentaurHauls
Feb 11 15:21:00 harsha kernel: [ 0.000000] zhaoxin Shanghai
Feb 11 15:21:00 harsha kernel: [ 0.000000] x86/fpu: Supporting XSAVE feature 0x001: 'x87 floating point registers'
Feb 11 15:21:00 harsha kernel: [ 0.000000] x86/fpu: Supporting XSAVE feature 0x002: 'SSE registers'
Feb 11 15:21:00 harsha kernel: [ 0.000000] x86/fpu: Supporting XSAVE feature 0x004: 'AVX registers'
Feb 11 15:21:00 harsha kernel: [ 0.000000] x86/fpu: xstate_offset[2]: 576, xstate_sizes[2]: 256
Feb 11 15:21:00 harsha kernel: [ 0.000000] x86/fpu: Enabled xstate features 0x7, context size is 832 bytes, using 'standard' format.
Feb 11 15:21:00 harsha kernel: [ 0.000000] BIOS-provided physical RAM map:
Feb 11 15:21:00 harsha kernel: [ 0.000000] BIOS-e820: [mem 0x0000000000000000-0x0000000000009fbfff] usable
Feb 11 15:21:00 harsha kernel: [ 0.000000] BIOS-e820: [mem 0x0000000000009fc00-0x0000000000009fffff] reserved
Feb 11 15:21:00 harsha kernel: [ 0.000000] BIOS-e820: [mem 0x000000000000f0000-0x000000000000fffff] reserved
Feb 11 15:21:00 harsha kernel: [ 0.000000] BIOS-e820: [mem 0x00000000000100000-0x000000000000dfffff] usable
Feb 11 15:21:00 harsha kernel: [ 0.000000] BIOS-e820: [mem 0x00000000000dffff000-0x00000000000dfffff] ACPI data
Feb 11 15:21:00 harsha kernel: [ 0.000000] BIOS-e820: [mem 0x00000000fec00000-0x00000000fec00fff] reserved
Feb 11 15:21:00 harsha kernel: [ 0.000000] BIOS-e820: [mem 0x00000000fee00000-0x00000000fee00fff] reserved
Feb 11 15:21:00 harsha kernel: [ 0.000000] BIOS-e820: [mem 0x00000000fffc0000-0x00000000fffff] reserved
Feb 11 15:21:00 harsha kernel: [ 0.000000] BIOS-e820: [mem 0x00000000100000000-0x000000002527fffff] usable
Feb 11 15:21:00 harsha kernel: [ 0.000000] NX (Execute Disable) protection: active
Feb 11 15:21:00 harsha kernel: [ 0.000000] SMBIOS 2.5 present.
Feb 11 15:21:00 harsha kernel: [ 0.000000] DMI: innotek GmbH VirtualBox/VirtualBox, BIOS VirtualBox 12/01/2006
Feb 11 15:21:00 harsha kernel: [ 0.000000] Hypervisor detected: KVM
Feb 11 15:21:00 harsha kernel: [ 0.000000] kvm-clock: Using msrs 4b564d01 and 4b564d00
Feb 11 15:21:00 harsha kernel: [ 0.000000] kvm-clock: cpu 0, msr 1c7401001, primary cpu clock
harsha@harsha:~$
```

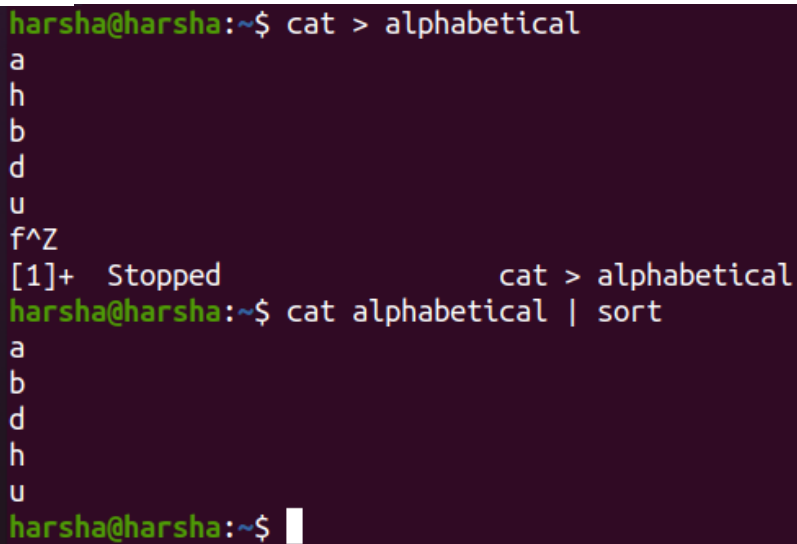
3. tail -30 /var/log/syslog

Ubuntu [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help

```
Feb 27 21:31
harsha@harsha: ~
harsha@harsha: ~
harsha@harsha: ~
Feb 11 15:21:00 harsha kernel: [ 0.000000] DMI: innotek GmbH VirtualBox/VirtualBox, BIOS VirtualBox 12/01/2006
Feb 11 15:21:00 harsha kernel: [ 0.000000] Hypervisor detected: KVM
Feb 11 15:21:00 harsha kernel: [ 0.000000] kvm-clock: Using msrc 4b564d01 and 4b564d00
Feb 11 15:21:00 harsha kernel: [ 0.000000] kvm-clock: cpu 0, msrc 1c7401001, primary cpu clock
harsha@harsha:~$ tail -30 /var/log/syslog
Feb 27 21:29:50 harsha gnome-shell[1338]: Window manager warning: Overwriting existing binding of keysym 35 with keysym 35 (keycode e).
Feb 27 21:29:50 harsha gnome-shell[1338]: Window manager warning: Overwriting existing binding of keysym 36 with keysym 36 (keycode f).
Feb 27 21:29:50 harsha gnome-shell[1338]: Window manager warning: Overwriting existing binding of keysym 37 with keysym 37 (keycode 10).
Feb 27 21:29:50 harsha gnome-shell[1338]: Window manager warning: Overwriting existing binding of keysym 38 with keysym 38 (keycode 11).
Feb 27 21:29:50 harsha gnome-shell[1338]: Window manager warning: Overwriting existing binding of keysym 39 with keysym 39 (keycode 12).
Feb 27 21:29:50 harsha gsd-color[1471]: unable to get EDID for xrandr-Virtual1: unable to get EDID for output
Feb 27 21:30:01 harsha CRON[2602]: (root) CMD ([ -x /etc/init.d/anacron ] && if [ ! -d /run/systemd/system ]; then /usr/sbin/invoke-rc.d anacron start >/dev/null; fi)
Feb 27 21:30:26 harsha kernel: [ 3512.911325] RRSscreenChangeNotify event received
Feb 27 21:30:26 harsha kernel: [ 3512.919622] Monitor 0 (w,h)=(958,914) (x,y)=(0,0)
Feb 27 21:30:26 harsha kernel: [ 3512.919622] Sending monitor positions (8 of them) to the host: VINF_SUCCESS
Feb 27 21:30:26 harsha kernel: [ 3512.919766] RRSscreenChangeNotify event received
Feb 27 21:30:26 harsha kernel: [ 3512.924196] Monitor 0 (w,h)=(958,914) (x,y)=(0,0)
Feb 27 21:30:26 harsha kernel: [ 3512.924457] Sending monitor positions (8 of them) to the host: VINF_SUCCESS
Feb 27 21:30:26 harsha kernel: [ 3512.924592] RRSscreenChangeNotify event received
Feb 27 21:30:26 harsha kernel: [ 3512.929311] Monitor 0 (w,h)=(958,914) (x,y)=(0,0)
Feb 27 21:30:26 harsha kernel: [ 3512.929562] Sending monitor positions (8 of them) to the host: VINF_SUCCESS
Feb 27 21:30:26 harsha kernel: [ 3512.929696] RRSscreenChangeNotify event received
Feb 27 21:30:26 harsha kernel: [ 3512.930007] Monitor 0 (w,h)=(958,914) (x,y)=(0,0)
Feb 27 21:30:26 harsha kernel: [ 3512.930253] Sending monitor positions (8 of them) to the host: VINF_SUCCESS
Feb 27 21:30:26 harsha gsd-color[1471]: unable to get EDID for xrandr-Virtual1: unable to get EDID for output
Feb 27 21:30:26 harsha gsd-color[1471]: message repeated 3 times: [ unable to get EDID for xrandr-Virtual1: unable to get EDID for output]
Feb 27 21:30:26 harsha gnome-shell[1338]: Window manager warning: Overwriting existing binding of keysym 33 with keysym 33 (keycode c).
Feb 27 21:30:26 harsha gnome-shell[1338]: Window manager warning: Overwriting existing binding of keysym 31 with keysym 31 (keycode a).
Feb 27 21:30:26 harsha gnome-shell[1338]: Window manager warning: Overwriting existing binding of keysym 32 with keysym 32 (keycode b).
Feb 27 21:30:26 harsha gnome-shell[1338]: Window manager warning: Overwriting existing binding of keysym 34 with keysym 34 (keycode d).
Feb 27 21:30:26 harsha gnome-shell[1338]: Window manager warning: Overwriting existing binding of keysym 35 with keysym 35 (keycode e).
Feb 27 21:30:26 harsha gnome-shell[1338]: Window manager warning: Overwriting existing binding of keysym 36 with keysym 36 (keycode f).
Feb 27 21:30:26 harsha gnome-shell[1338]: Window manager warning: Overwriting existing binding of keysym 38 with keysym 38 (keycode 11).
Feb 27 21:30:26 harsha gnome-shell[1338]: Window manager warning: Overwriting existing binding of keysym 39 with keysym 39 (keycode 12).
Feb 27 21:30:26 harsha gnome-shell[1338]: Window manager warning: Overwriting existing binding of keysym 37 with keysym 37 (keycode 10).
harsha@harsha:~$
```

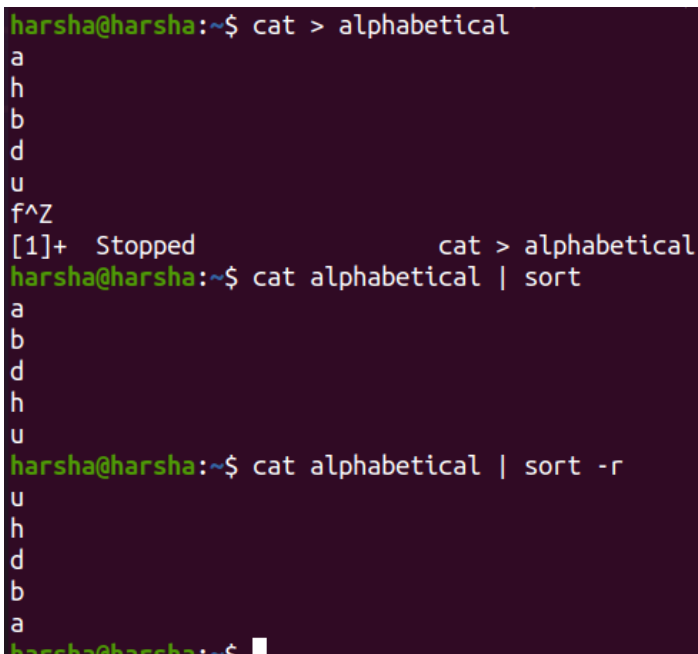
4.

i) `cat alphabetical | sort`



```
harsha@harsha:~$ cat > alphabetical
a
h
b
d
u
f^Z
[1]+  Stopped                  cat > alphabetical
harsha@harsha:~$ cat alphabetical | sort
a
b
d
h
u
harsha@harsha:~$
```

ii) `cat alphabetical | sort -r`



```
harsha@harsha:~$ cat > alphabetical
a
h
b
d
u
f^Z
[1]+  Stopped                  cat > alphabetical
harsha@harsha:~$ cat alphabetical | sort
a
b
d
h
u
harsha@harsha:~$ cat alphabetical | sort -r
u
h
d
b
a
harsha@harsha:~$
```

iii) cat alphabetical | sort -n

```
harsha@harsha:~$ cat > alphabetical
a
b
c
d
e
1
44
2
5
3
^Z
[2]+  Stopped                  cat > alphabetical
harsha@harsha:~$ cat alphabetical | sort -n
a
b
c
d
e
1
2
3
5
44
harsha@harsha:~$
```

5. cat name_list | sort | uniq

```
harsha@harsha:~$ cat > name_list
hh
hh
jj
jj
kk
kk
ll
ll
mm
mm
^Z
[4]+  Stopped                  cat > name_list
harsha@harsha:~$ cat name_list | sort | uniq
hh
jj
kk
ll
mm
harsha@harsha:~$
```

6. Ans. **Read , Write , Execute**