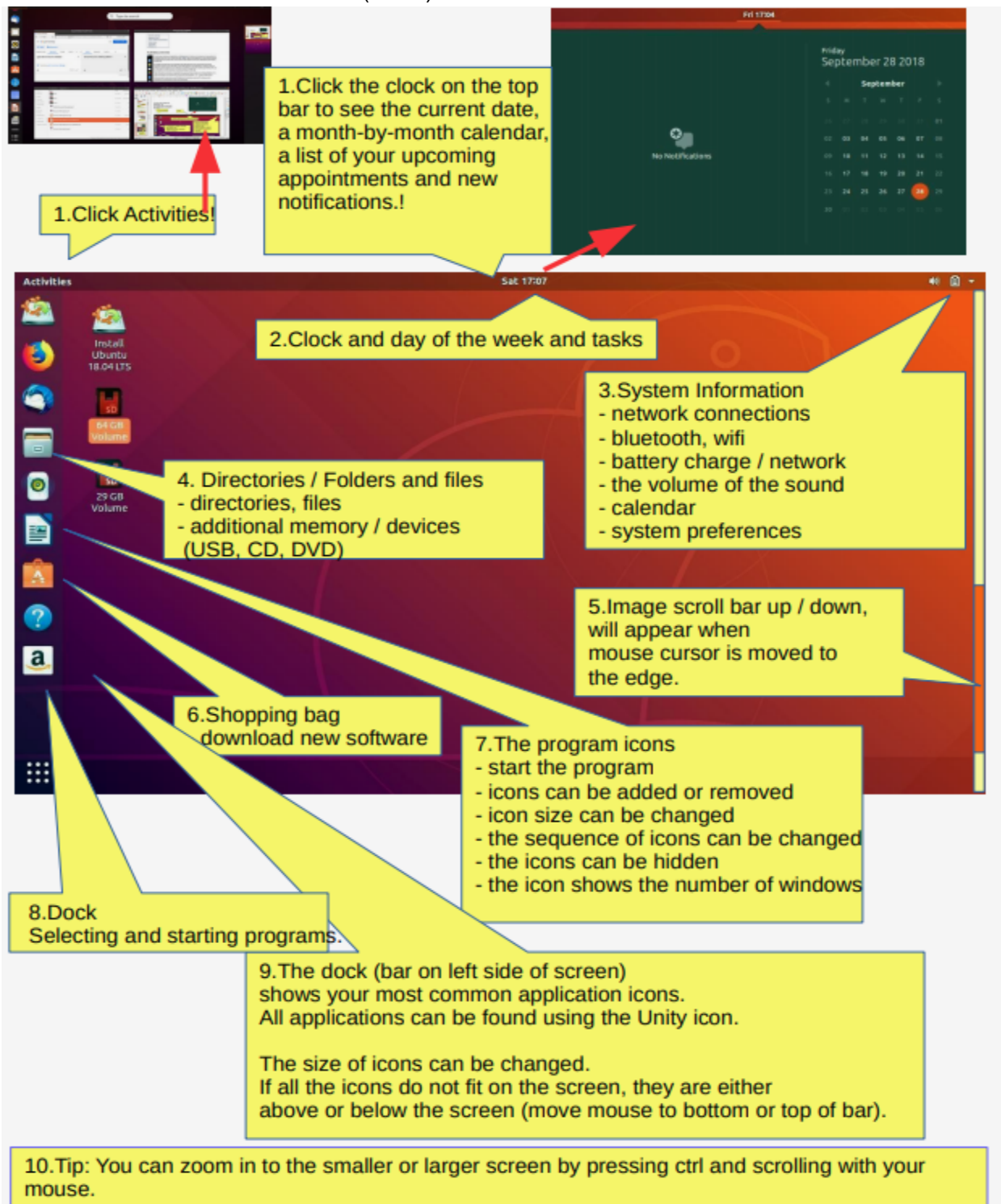


The Elements of Welcome Screen(Linux):



1. Click Activities!

1. Click the clock on the top bar to see the current date, a month-by-month calendar, a list of your upcoming appointments and new notifications.!

2. Clock and day of the week and tasks

3. System Information

- network connections
- bluetooth, wifi
- battery charge / network
- the volume of the sound
- calendar
- system preferences

4. Directories / Folders and files

- directories, files
- additional memory / devices (USB, CD, DVD)

5. Image scroll bar up / down, will appear when mouse cursor is moved to the edge.

6. Shopping bag download new software

7. The program icons

- start the program
- icons can be added or removed
- icon size can be changed
- the sequence of icons can be changed
- the icons can be hidden
- the icon shows the number of windows

8. Dock Selecting and starting programs.

9. The dock (bar on left side of screen) shows your most common application icons. All applications can be found using the Unity icon.

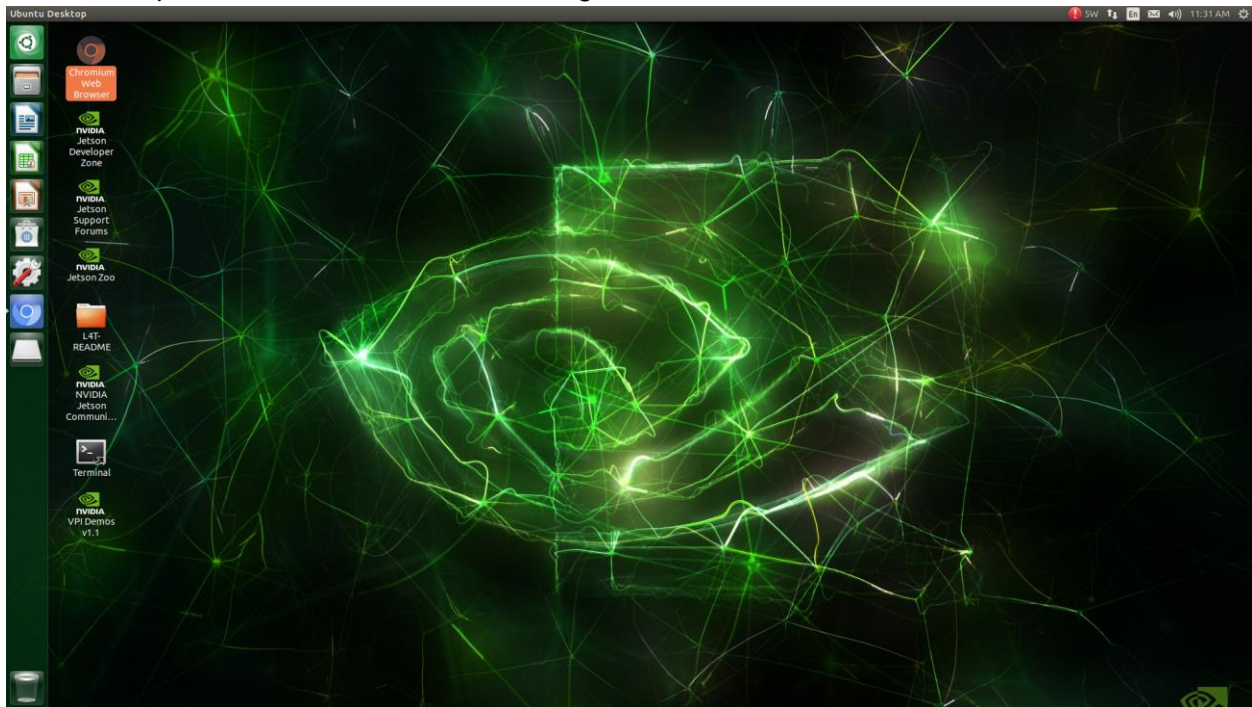
The size of icons can be changed.
If all the icons do not fit on the screen, they are either above or below the screen (move mouse to bottom or top of bar).

10. Tip: You can zoom in to the smaller or larger screen by pressing ctrl and scrolling with your mouse.

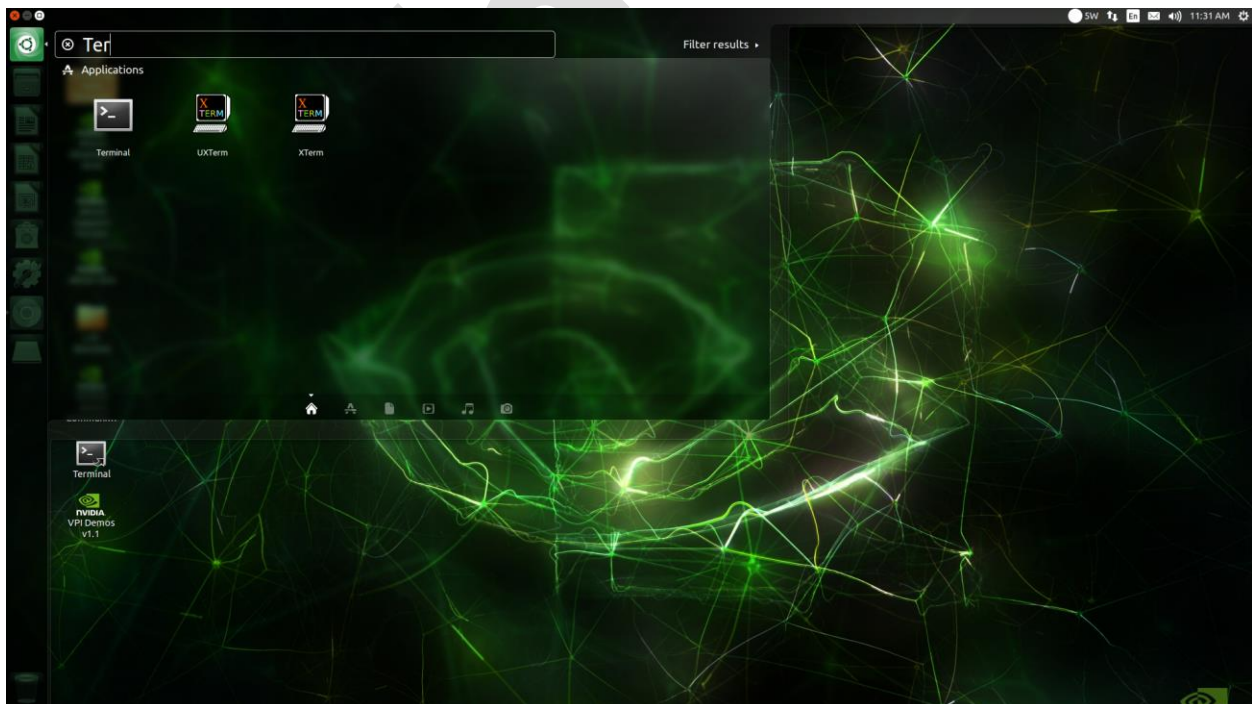
For Ubuntu Details: <https://www.ubuntutor.com/ubuntu18eng/Ubuntu%201804%20english.pdf>

Commands : <https://web.njit.edu/~alexg/courses/cs332/OLD/S2020/s20hand3/Linux-Tutorial.pdf>

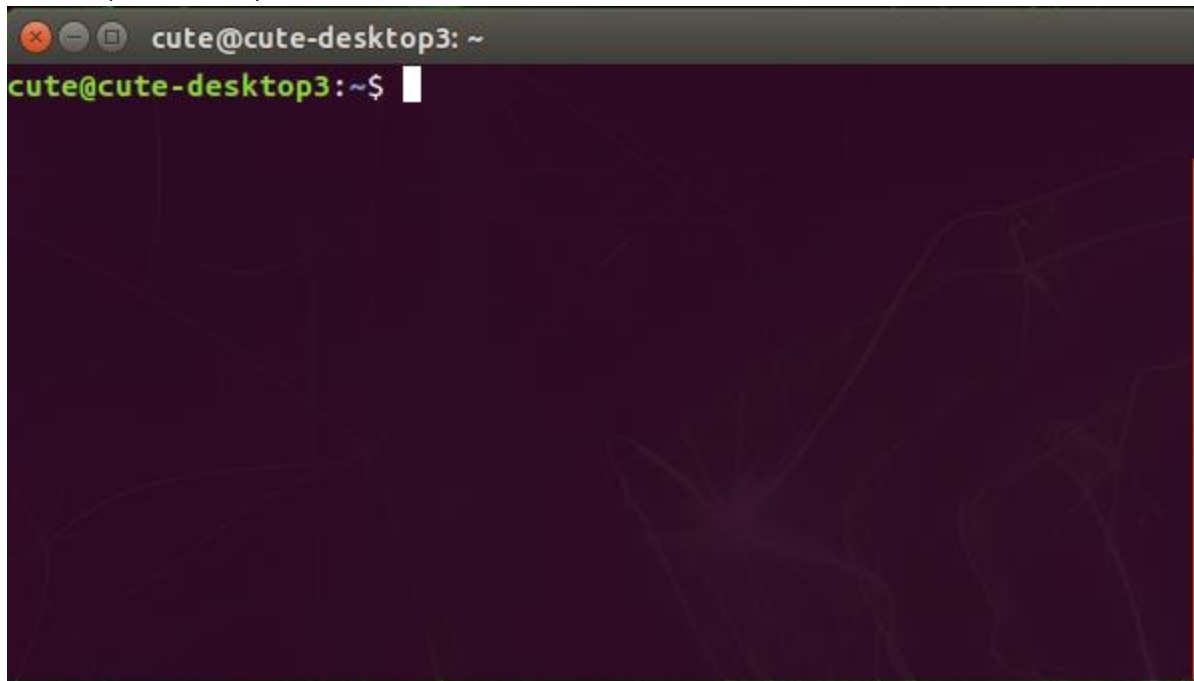
The Desktop screen of Jetson nano after Login:



In the Dock Click on Green Icon (Search your Computer) -> Type Terminal



Launch(Click/Enter) Terminal



Unix/Linux Command can be executed in the terminal.

IMPORTANT: The Nano runs on Linux and it is **case sensitive** (Uname ≠ uname) U caps and u small will be distinct.

Everything in Linux is file, including your devices like camera, keyboard, monitor etc. Directories are special files, these are places where you put other files. On Mac and Windows they are called folders. The Path in Linux is represented as words connected by the “/” character. The “/” is called the root of the file system. The path that starts with “/” is called absolute path (eg. **/home/cute**) and the path which starts with ‘ . ’ or ‘ .. ’ is called a relative path (eg. **./etc/config.sh**)

PS: Unlike on Windows, they use a “\”, just to be different. e.g. **C:\User\Desktop**

\$ sign will be used to show before text is command, to use them do not copy the \$ sign angular bracket are used **< >** to denote possible value

To check system details

\$ uname -a

Here **uname** is *command* name and **-a** is called option that is passed to command.

Basic UNIX commands

Wild Characters :

- ~ "tilde" indicates your home directory: /home/you
- * "star": wildcard, matches anything
- ? wildcard, matches any one character
- & run a job in the background, or redirect errors
- > , <, >> I/O redirection

Print name of the "current working directory"

\$ pwd

```
cute@cute-desktop3:~$ pwd
/home/cute
```

The **ls** command lists the contents of your current working directory

\$ ls

```
cute@cute-desktop3:~$ ls
Desktop  Downloads      Music    Public    Videos
Documents examples.desktop Pictures  Templates
```

PS: The Blue color shows the given file is a directory.

The command **cat** to create a file (To end the input press ctrl+D keys)

\$ echo > list.txt

```
cute@cute-desktop3:~$ cat > list.txt
ahmed
rimaz
zahir, yusuf
Aamir
```

The command **cat** (concatenate) can be used to display the contents of a file on the screen.

\$ cat list.txt

```
cute@cute-desktop3:~$ cat list.txt
ahmed
rimaz
zahir, yusuf
Aamir
cute@cute-desktop3:~$
```

To clear screen

\$ clear

Making Directories (mkdir)

\$ mkdir <dir_name>

```
cute@cute-desktop3:~$ ls
Desktop  Downloads  list.txt  Pictures  Templates
Documents examples.desktop Music     Public    Videos
cute@cute-desktop3:~$ mkdir test
cute@cute-desktop3:~$ ls
Desktop  Downloads  list.txt  Pictures  Templates  Videos
Documents examples.desktop Music     Public    test
cute@cute-desktop3:~$
```

Changing Directory

\$ cd <path_of directory or directory name>

```
cute@cute-desktop3:~$ cd /home/cute/test/
cute@cute-desktop3:~/test$ pwd
/home/cute/test
cute@cute-desktop3:~/test$ cd ..
cute@cute-desktop3:~$ pwd
/home/cute
cute@cute-desktop3:~$ cd ./test
cute@cute-desktop3:~/test$
```

The directories '**.**' is current directory and '**..**' is parent directory

To move a file

\$ mv /src_path/file.txt ../dest_path/file.txt

- same name, different directory

```
cute@cute-desktop3:~$ ls
Desktop  Downloads  list.txt  Pictures  Templates  Videos
Documents examples.desktop Music     Public    test
cute@cute-desktop3:~$ mv list.txt ../test
cute@cute-desktop3:~$ ls
Desktop  Downloads  Music     Public    test
Documents examples.desktop Pictures  Templates  Videos
cute@cute-desktop3:~$
```

To rename a file.

\$ mv oldname.txt newname.txt

```
cute@cute-desktop3:~$ ls
Desktop  Downloads  Music     Public    test
Documents examples.desktop Pictures  Templates  Videos
cute@cute-desktop3:~$ mv ./test/list.txt ./new_list.txt
cute@cute-desktop3:~$ ls
Desktop  Downloads  Music     Pictures  Templates  Videos
Documents examples.desktop new_list.txt Public    test
cute@cute-desktop3:~$ cat new_list.txt
ahmed
rimaz over There!...
zahir, yusuf
Aamir, one can read...
cute@cute-desktop3:~$
```


To copy file (This is just like “mv” except it does not delete the original)

\$ cp test1/file.txt ../test2/file.txt

```
cute@cute-desktop3:~$ ls
Desktop  Downloads  Music      Pictures  Templates  Videos
Documents examples.desktop new_list.txt Public    test

cute@cute-desktop3:~$ cp new_list.txt list2.txt
cute@cute-desktop3:~$ ls
Desktop  Downloads  list2.txt  new_list.txt  Public  test
Documents examples.desktop Music      Pictures      Templates  Videos
cute@cute-desktop3:~$
```

Remove a file forever. There is no “undelete”

\$ rm < filename>

```
cute@cute-desktop3:~$ ls
Desktop  Downloads  list2.txt  new_list.txt  Public  test
Documents examples.desktop Music      Pictures      Templates  Videos

cute@cute-desktop3:~$ rm list2.txt
cute@cute-desktop3:~$ ls
Desktop  Downloads  Music      Pictures  Templates  Videos
Documents examples.desktop new_list.txt Public    test

cute@cute-desktop3:~$
```

Forcefully remove directory

rm -rf <path_to_your_directory> /dir_name/

```
cute@cute-desktop3:~$ mv *.txt ./test/
cute@cute-desktop3:~$ ls
Desktop  Downloads  Music  Public  test
Documents examples.desktop Pictures Templates Videos

cute@cute-desktop3:~$ ls ./test
new_list.txt
cute@cute-desktop3:~$ rm -rf ./test
cute@cute-desktop3:~$ ls
Desktop  Downloads  Music  Public  Videos
Documents examples.desktop Pictures Templates

cute@cute-desktop3:~$
```

To change the “permission” of a file chmod

(Types are a - all, u - user g - group, ‘ + ‘ to add permission, ‘ - ‘ is to remove permissions
Permissions: x - execute, r - read, w - write)

\$ chmod a+r filename.txt

- make it so everyone can read it

\$ chmod u+rw filename.txt

- make it you can read/write/execute it

\$ chmod -R u+rw /some/random/place

- make it so you can read/write everything under a directory

HELP: Getting help can be done using man command, usage **man <cmd_name>** eg.

\$ man ls

Above command will show help on **ls** command

To Reboot system (sudo is used for running command as root user that is superuser/admin and require password of user)

\$ sudo reboot

The **sudo apt-get update** command is used to download package information from all configured sources.

\$ sudo apt-get update

\$ sudo su <username> to change user

Environment Variables

Some of the environment variables are :

\$USER - Your login name

\$HOME - Path name of your home directory

\$HOSTNAME - Name of the computer you are using

\$PATH - Directories the shell searches to find commands

\$SHELL - The shell you are using (should be bash!)

Environment variables are displayed using the **env** command.

\$ env

To check the value of a specific environment variable (eg. for path variable)

\$ echo \$PATH

wget is a web client (not a browser). It can be used to download files from web and ftp sites. copy link of the source <url> and use it as shown:

```
$ wget https://web.njit.edu/~alexg/courses/cs332/OLD/S2020/s20hand3/Linux-Tutorial.pdf
```

Extracting from zip or tar file

```
$ gunzip filename.gz
```

```
$ tar -zxvf filename.tar.gz
```

Search through directories, find files

```
$ find ./ -name ifilename_to_search*.txt
```

Check how much space is left on disks

```
$ df
```