Command line practice

1. What is the absolute path of your home directory?

(base) sarthdiskalkar@Sarths-MBP ~ % pwd

/Users/sarthdiskalkar

1. Are there any other user accounts on your computer? What are they?

(base) sarthdiskalkar@Sarths-MBP ~ % cd /

(base) sarthdiskalkar@Sarths-MBP / % ls

Applications System Volumes cores etc opt sbin usr

Library Users bin dev home private tmp var

(base) sarthdiskalkar@Sarths-MBP / % cd Users

(base) sarthdiskalkar@Sarths-MBP /Users % ls

Shared biol6505-programmingforbiologistshealthsciences sarthdiskalkar

3. Do you have Microsoft Office installed? Google Chrome? Identify the absolute path of

where these applications are stored. What other programs are stored in this directory?

(base) sarthdiskalkar@Sarths-MBP ~ % cd /

(base) sarthdiskalkar@Sarths-MBP / % ls

Applications System Volumes cores etc opt sbin usr

Library Users bin dev home private tmp var

(base) sarthdiskalkar@Sarths-MBP / % cd Applications | ls

Applications System Volumes cores etc opt sbin usr

Library Users bin dev home private tmp var

(base) sarthdiskalkar@Sarths-MBP / % cd Applications

(base) sarthdiskalkar@Sarths-MBP /Applications % ls

'Adobe Acrobat Reader.app' Numbers.app

Anaconda-Navigator.app OmicsBox.app

Anki.app OneDrive.app

Discord.app Pages.app

Docker.app PyCharm.app

GarageBand.app 'Python 3.11'

GlobalProtect.app R.app

'Google Chrome.app' RStudio.app

Keynote.app Safari.app

'League of Legends.app' Slack.app

'Microsoft Excel.app' Spotify.app

'Microsoft OneNote.app' Steam.app

'Microsoft Outlook.app' 'Sublime Text.app'

'Microsoft PowerPoint.app' Utilities

'Microsoft Teams (work or school).app' 'VMD 1.9.4a57-arm64-Rev12.app'

'Microsoft Teams classic.app' "VMD User's Guide.pdf"

'Microsoft Word.app' iMovie.app

'Mu Editor.app' zoom.us.app

MySQLWorkbench.app

(base) sarthdiskalkar@Sarths-MBP /Applications % pwd

/Applications

4. Navigate to your home directory. Create a directory called ‘PythonClass’ using a relative

path. Create a directory in your home directory called ‘PythonClass2’ using an absolute

path. Verify both directories were created using the ls command. Now remove both

directories using the rm command

(base) sarthdiskalkar@Sarths-MBP ~ % mkdir ~/PythonClass

(base) sarthdiskalkar@Sarths-MBP ~ % pwd

/Users/sarthdiskalkar

(base) sarthdiskalkar@Sarths-MBP ~ % mkdir /Users/sarthdiskalkar/PythonClass2

(base) sarthdiskalkar@Sarths-MBP ~ % ls PythonClass\*

PythonClass:

PythonClass2:

(base) sarthdiskalkar@Sarths-MBP ~ % rm PythonClass\* -r

5. Identify all of the directories in your root directory

(base) sarthdiskalkar@Sarths-MBP ~ % cd /

(base) sarthdiskalkar@Sarths-MBP / % ls

Applications System Volumes cores etc opt sbin usr

Library Users bin dev home private tmp var

Could also use the -a option here to get “all” of the directories

6. Identify directories that contain directories, text files, and symbolic links. Use ls -la to

determine a way to distinguish between these three files.

(base) sarthdiskalkar@Sarths-MBP / % cd Applications

(base) sarthdiskalkar@Sarths-MBP /Applications % ls -la

total 2252

drwxrwxr-x 41 root admin 1312 May 7 15:56 .

drwxr-xr-x 20 root wheel 640 Dec 15 09:43 ..

-rw-r--r-- 1 sarthdiskalkar admin 6148 May 7 13:25 .DS\_Store

-rw-r--r-- 1 root wheel 0 Dec 15 09:43 .localized

drwxrwxr-x 3 root wheel 96 May 7 12:03 'Adobe Acrobat Reader.app'

lrwxr-xr-x 1 sarthdiskalkar admin 54 Jan 24 13:43 Anaconda-Navigator.app -> /Users/sarthdiskalkar/anaconda3/Anaconda-Navigator.app

drwxr-xr-x 3 sarthdiskalkar admin 96 Jan 8 2023 Anki.app

drwxr-xr-x 3 biol6505-programmingforbiologistshealthsciences staff 96 Nov 6 2023 Discord.app

drwxr-xr-x 3 sarthdiskalkar admin 96 Feb 23 09:49 Docker.app

drwxr-xr-x 3 root wheel 96 Aug 22 2022 GarageBand.app

drwxr-xr-x 3 root wheel 96 Aug 25 2023 GlobalProtect.app

drwxrwxr-x 3 sarthdiskalkar admin 96 May 2 19:18 'Google Chrome.app'

drwxr-xr-x 3 root wheel 96 Aug 22 2022 Keynote.app

drwxrwxrwx 3 sarthdiskalkar admin 96 Mar 1 2023 'League of Legends.app'

drwxrwxr-x 3 root wheel 96 Apr 17 00:25 'Microsoft Excel.app'

drwxrwxr-x 3 root wheel 96 Apr 17 00:25 'Microsoft OneNote.app'

drwxrwxr-x 3 root wheel 96 Dec 25 22:39 'Microsoft Outlook.app'

drwxrwxr-x 3 root wheel 96 Apr 17 00:26 'Microsoft PowerPoint.app'

drwxr-xr-x 3 root wheel 96 May 2 15:27 'Microsoft Teams (work or school).app'

drwxr-xr-x 3 root wheel 96 Apr 8 23:52 'Microsoft Teams classic.app'

drwxrwxr-x 3 root wheel 96 Apr 17 00:28 'Microsoft Word.app'

drwxr-xr-x 3 sarthdiskalkar admin 96 Nov 14 2022 'Mu Editor.app'

drwxr-xr-x 3 sarthdiskalkar admin 96 Jul 13 2023 MySQLWorkbench.app

drwxr-xr-x 3 root wheel 96 Aug 22 2022 Numbers.app

drwxr-xr-x 3 sarthdiskalkar admin 96 Feb 22 10:17 OmicsBox.app

drwxr-xr-x 3 root wheel 96 May 7 15:56 OneDrive.app

drwxr-xr-x 3 root wheel 96 Aug 22 2022 Pages.app

drwxr-xr-x 3 sarthdiskalkar admin 96 May 16 2023 PyCharm.app

drwxr-xr-x 10 root wheel 320 May 2 2023 'Python 3.11'

drwxr-xr-x 3 root wheel 96 Oct 23 2023 R.app

drwxr-xr-x 3 sarthdiskalkar admin 96 Oct 16 2023 RStudio.app

lrwxr-xr-x 1 root wheel 54 Dec 15 09:43 Safari.app -> ../System/Cryptexes/App/System/Applications/Safari.app

drwxr-xr-x 3 sarthdiskalkar staff 96 Jan 9 19:44 Slack.app

drwxr-xr-x 3 sarthdiskalkar staff 96 Feb 23 12:46 Spotify.app

drwxr-xr-x 3 sarthdiskalkar admin 96 Mar 22 2022 Steam.app

drwxr-xr-x 3 sarthdiskalkar admin 96 Dec 4 16:12 'Sublime Text.app'

drwxr-xr-x 3 root wheel 96 Dec 15 09:43 Utilities

drwxr-xr-x 3 sarthdiskalkar admin 96 Oct 13 2020 'VMD 1.9.4a57-arm64-Rev12.app'

-rw-r--r-- 1 sarthdiskalkar staff 2295838 Dec 14 2020 "VMD User's Guide.pdf"

drwxr-xr-x 3 root wheel 96 Aug 22 2022 iMovie.app

drwxr-xr-x 3 root wheel 96 Jul 4 2023 zoom.us.app

(base) sarthdiskalkar@Sarths-MBP /Applications %  
  
In my root directory, it is clear that the ones with the -> are symbolic links that point towards an executable or file/directory. Also in the very beggning there is either a - for file, l for symbolic link, or a d for directory.

7. While not covered in Lecture, grep is an extremely useful command for searching for text

strings. On Canvas, I have included an example file that you can search through called

Demographics.csv. This file lists demographic information by county. This information

could be useful to predict how many people are expected to be hospitalized if Covid-19

spreads through a county. We know that Covid-19 has a strong age-dependence in

determining the likelihood that someone is hospitalized or dies from it if they are infected.

a. Read the manual page in order to learn how to use grep. Use grep in order to

search for the demographics specific to Fulton County, where we are located now.

Make sure you only print out information for Fulton County from Georgia.

(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % grep 'Fulton County, Georgia' -c Demographics.csv

101

(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % grep 'Fulton County, Georgia' Demographics.csv

100091,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,0,12373

100092,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,1,12373

100093,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,2,12373

100094,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,3,12373

100095,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,4,12408

100096,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,5,12443

100097,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,6,12479

100098,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,7,12514

100099,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,8,12591

100100,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,9,12710

100101,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,10,12829

100102,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,11,12948

100103,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,12,13067

100104,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,13,13232

100105,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,14,13444

100106,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,15,13656

100107,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,16,13868

100108,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,17,14080

100109,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,18,14265

100110,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,19,14422

100111,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,20,14579

100112,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,21,14737

100113,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,22,14894

100114,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,23,15361

100115,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,24,16139

100116,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,25,16916

100117,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,26,17694

100118,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,27,18471

100119,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,28,18662

100120,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,29,18266

100121,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,30,17870

100122,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,31,17475

100123,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,32,17079

100124,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,33,16758

100125,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,34,16513

100126,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,35,16268

100127,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,36,16023

100128,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,37,15777

100129,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,38,15510

100130,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,39,15220

100131,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,40,14929

100132,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,41,14639

100133,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,42,14349

100134,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,43,14305

100135,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,44,14506

100136,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,45,14708

100137,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,46,14909

100138,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,47,15110

100139,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,48,15061

100140,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,49,14762

100141,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,50,14463

100142,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,51,14164

100143,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,52,13865

100144,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,53,13642

100145,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,54,13495

100146,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,55,13348

100147,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,56,13201

100148,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,57,13055

100149,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,58,12762

100150,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,59,12324

100151,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,60,11886

100152,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,61,11448

100153,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,62,11010

100154,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,63,10573

100155,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,64,10137

100156,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,65,9701

100157,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,66,9265

100158,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,67,8829

100159,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,68,8391

100160,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,69,7952

100161,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,70,7512

100162,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,71,7072

100163,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,72,6632

100164,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,73,6183

100165,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,74,5725

100166,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,75,5267

100167,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,76,4809

100168,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,77,4351

100169,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,78,3964

100170,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,79,3647

100171,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,80,3331

100172,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,81,3014

100173,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,82,2697

100174,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,83,2465

100175,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,84,2317

100176,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,85,2169

100177,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,86,2021

100178,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,87,1873

100179,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,88,1725

100180,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,89,1577

100181,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,90,1429

100182,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,91,1286

100183,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,92,1143

100184,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,93,1000

100185,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,94,857

100186,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,95,714

100187,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,96,571

100188,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,97,428

100189,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,98,285

100190,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,99,142

100191,"Fulton County, Georgia",13121,County,13,Georgia,South,United States of America,North America,100,0

b. The default behavior of grep is to print out information to standard out (which shows

on the screen). If you want to redirect this output to a file, it is very easy to using

“>” after the command and then supplying the name of the file that you want to

print to. Create a file that just contains the information for Fulton County and a file

that just contains the information for the county you were born in.

This one redirects the output which was the count number to ForsythCountyInfo.txt

(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % grep -c 'Forsyth County, Georgia' Demographics.csv > ForsythCountyInfo.txt   
  
This one appends the new output to the end basically adding on to the end of the same file.

(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % grep 'Forsyth County, Georgia' Demographics.csv >> ForsythCountyInfo.txt

c. wc is a command that you can use to count the number of characters, words, or

lines in a file. Use this command to count how many of each are in the

Demographics.csv file along with the two custom files you created. Identify flags

that you can send to wc to restrict the output to just characters, words, or lines.

(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % wc ForsythCountyInfo.txt

102 713 11000 ForsythCountyInfo.txt

(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % wc FultonCountyInfo.txt

101 707 11056 FultonCountyInfo.txt

(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % wc FultonCountyInfo.txt ForsythCountyInfo.txt

101 707 11056 FultonCountyInfo.txt

102 713 11000 ForsythCountyInfo.txt

203 1420 22056 total

(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % wc Demographics.csv

322292 2362391 36111459 Demographics.csv

(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % wc FultonCountyInfo.txt ForsythCountyInfo.txt Demographics.csv

101 707 11056 FultonCountyInfo.txt

102 713 11000 ForsythCountyInfo.txt

322292 2362391 36111459 Demographics.csv

322495 2363811 36133515 total

Now I will explore the use of various options on the ForsythCounty file:  
-m -> for printing number of characters in file  
(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % wc -m ForsythCountyInfo.txt

11000 ForsythCountyInfo.txt

-w -> count of words in file

(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % wc -w ForsythCountyInfo.txt

713 ForsythCountyInfo.txt

-l -> prints number of lines in file

(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % wc -l ForsythCountyInfo.txt

102 ForsythCountyInfo.txt

-c -> count of bytes in file

(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % wc -c ForsythCountyInfo.txt

11000 ForsythCountyInfo.txt

-L -> used to print out the length of longest (number of characters) line in a file.

(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % wc -L ForsythCountyInfo.txt

108 ForsythCountyInfo.txt

d. Identify a flag using grep to identify all of the ages/counties that do not have a

person alive (i.e. the last column = 0). Create a new file where these 0 lines are

filtered out of the file.

(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % grep ',0$' Demographics.csv > NoPersonAlive

$ indicates end of the line.

8. Piping: piping is a method to combine two programs. You can take the output of one

program and send it into the input of a second program. For example, if you want to

combine grep and wc you can do it like so:

$ grep ",South Carolina," Demographics.csv | grep "America,0,"

This command first searches the Demographics.csv file for all the data from counties in South

Carolina. It then send the output of the first command to grep to further filter it for the number

of individuals in each county that are between 0-1 year old. The “|” character is what tells zsh to

do this. This way we have a single line for each county.

a. Use a pipe to create three commands. 1) How many symbolic links are in a given

directory? 2. How many subdirectories are in a given directory? 3. How many files are

in a given directory? Use the answers from 6 to help

1. ls -la | grep '^l' | wc -l
2. ls -la | grep '^d' | wc -l
3. ls -la | grep '^-' | wc -l

b. Identify a command that lists the number of counties that are in the state of South

Carolina (This can be done using 2 separate pipes). There should be 46 counties. Does

your number agree? If not what extra data is included or what counties are missing?

DONE

c. Based upon your answer in 8b, identify the demographics information for the state of

Georgia.

DONE

9. pico is a command that you can use as a text editor. It takes the name of the file you want

to use as an argument. If the file exists, it opens the file up for editing. If it doesn’t exist,

it creates a brand new file.

Some useful commands to interact with pico can be found here:

http://www.diochnos.com/tips/terminal/pico\_tutorial.pdf

a. Create a file called temp.txt using pico that contains the line: “This is my first text

file”. Save the file and exit the editor. Use more to verify the file saved correctly.

(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % cat temp.txt

This is my first text file.

b. Open the Demographics.csv file in the pico editor. Play around with some of the

pico commands to see how they work.

done

10. Use echo to print out the values of some of your environmental variables listed here:

<https://geek-university.com/linux/common-environment-variables/>

base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % echo $PWD

/Users/sarthdiskalkar/Desktop/Fall2023Bioinformatics/BIOL 6505/Lectures/Lecture1-CommandLine

(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % echo $USER

sarthdiskalkar

(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % echo $TERM

xterm-256color

(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % echo $DISPLAY

(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % echo $MANPATH

/usr/local/share/man:/opt/homebrew/share/man:::

(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % echo $SHELL

/bin/zsh

(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % $echo $HOME

zsh: permission denied: /Users/sarthdiskalkar

(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % $echo HOME

zsh: command not found: HOME

(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % $echo $HOME

zsh: permission denied: /Users/sarthdiskalkar

(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % echo $HOME

/Users/sarthdiskalkar

(base) sarthdiskalkar@Sarths-MBP Lecture1-CommandLine % echo $LANG

en\_US.UTF-8