Each shell has its own programming language (shell programming).

All have common core functionality; some differences.

Three popular shells: Bourne Shell, Korn Shell, C Shell.

To set your password, use the passwd command.

Upon logging on you will see a prompt (usually $ or %) which is displayed by a special kind of program called a SHELL program.

When you log in (get to the login prompt, usually by using the telnet utility to sign on to a computer) to obtain an account in UNIX for non-programmers.
- To logout, enter CTRL-D

man -k keyword
utility: man [-s section] word
utility: clear
utility: date [YMDHHMM] . SS
prompt.

To run a utility, simply type the name of the utility after the

Running Utilities
Special Characters

- Meta characters can be listed using the CTS command


Get help on all these and more by pressing the F1 key.
Some common UNIX utilities
Hi Mom,

$ cat > Letter

David

Please send me money!

$ 15-7 Letter

Ray

other

38 May 28 11:20 Letter
h: help key for more commands
space bar takes you to next screen; q quit; enter next line
same as cat; pauses after each screen - more-
more file-spec-list

List contents of file(s) on screen without pause
cat file-spec-list

R: recursive listing
S: num. disk blocks; d: dir excerpts not contents
executable, link, directory, socket
F: * , ?, / : after file title name indicator
P: directory listing; a: hidden titles; l: long listing; G: group
ls -al [file-spec] file-spec-list

Some common Unix commands
rename titles (simply change titles in the title hierarchy)
mv -i dir dir $
mv -i title-spec dir $
mv -i old new $

display n lines from end of title
tall -n title-spec $

display n lines from front of title
head -n title-spec $
same as more; clears screen before each page. quicker
page >title-spec-list $
copy files
   cp -ir file.spec dir
   cp -ir file.spec dir
   cp -i old new

print working directory
   pwd

shell builtin; moves shell to a different directory
   cd dir

create a directory
   mkdir directory
wc -l file

The printing commands

cancel request-id

start dest

ip -d dest -n copies file

(deletes file, turns off all prompts/messages, x: interactive, r: recursive)

rm -f file

delete directory

rm -r
ascertain the type of title (ascii/binary etc.)

$ title name

paper.tex  title name

Nov 30 1998  title modification date

23055  title size in bytes

other  title owner

file owner

1  hard link count

'socket'

c

unbuffered file terminal, 1 link, p pipe,

title type (- regular, d dir, p buffered title disk drive)

-w-x--r--  title permissions:

46  num. of physical blocks

46 -w-x--r-- 1 raj

other

File Attributes

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Real user id is used for accounting purposes only.

Otherwise, other privileges applies.

But its effective group id =effective group id, for all owner of file.

If process' effective user id = owner of file, user privilege applies.

If process' effective user id = owner of file, file permissions apply as follows:

1. When a process runs, the file's permissions apply as follows:
   - real effective group id set to your group id
   - real effective user id set to your user id
2. When you log in, your login shell process has this
   - an effective group ID
   - a real group ID
   - an effective user ID
   - a real user ID

When a process executes, it has
(Thereby allowing processes to modify the best scores title)

shell (set group ID)

set user ID (set instead of x)

set user ID, when an executable with set user ID is executed, the effective user ID

Special feature: 2 special title permissions:

ends game: NOT by players alone

needs to be modified ONLY by rogue program process when player

This is undesirable sometimes: ex. Game of rogue, title of best scores

Note: Process access rights depends on who executes the process NOT
creates superuser with effective group id = group-name
negep group-name

change owner of title (only super user can do this)
new owner title-spec

change title permissions: u'r'w', e'r'w'
chmod -h u+w,e+w title-spec
chmod -h u-rw title-spec
chmod -h e+rw title-spec
chmod -h rXXX title-spec

change the group title belongs to
change -r ep-name title-spec

titles the groups a particular user belongs to
groups used


Line ranges: 1$, '1', $'$, '$', -2, 5$'12', +12

To get back to command mode use ESC

'1', 4$, 0', R

To enter text entry mode: use the following commands:

- Command mode vs Text Entry Mode

VI
cc (entire line)
  cm
  r

Replacing text:

$p_{\text{new}} = \frac{p_i}{\text{range}}$

Deleting Text:

$\text{range} \downarrow \text{range} \uparrow \text{range} \uparrow \text{range} \downarrow$

Cursor Movement:
Searching/Replacing:

N (opposite direction)
 u

Searching:

 upp (after line nn)
 d
d

Range: (Yank Lines)

Paste Text: