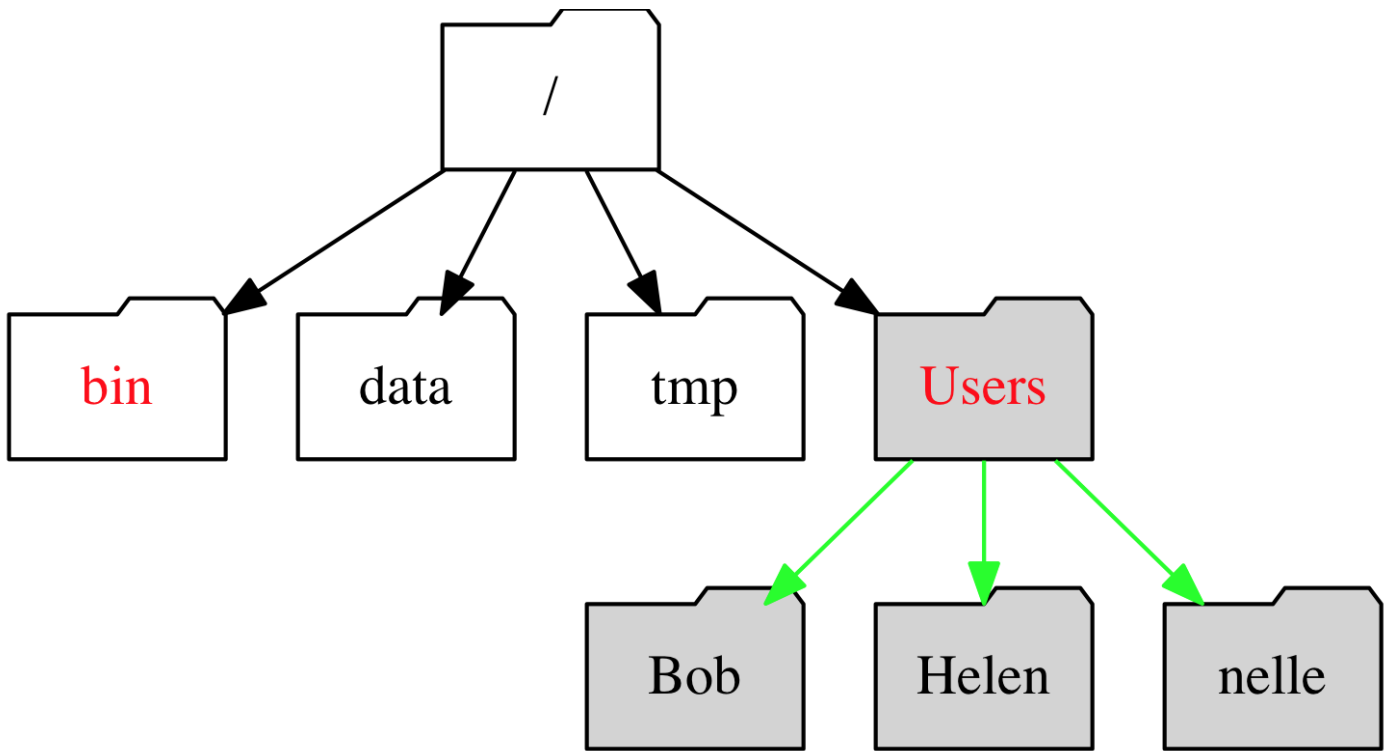






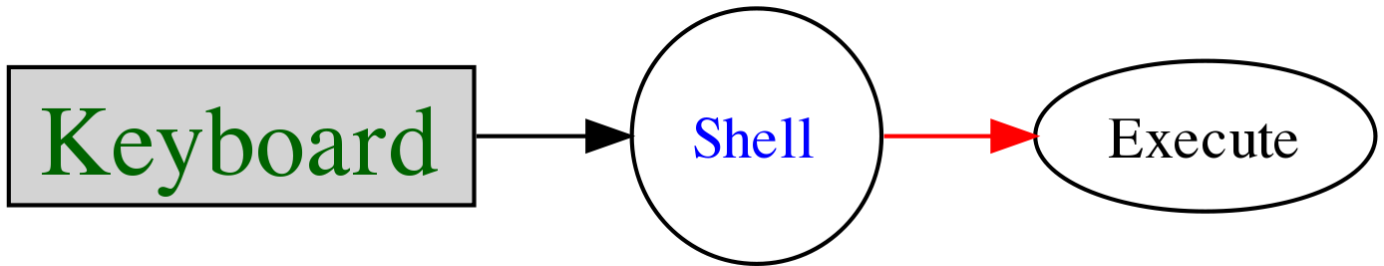
# Hard drive file system



Root:

/

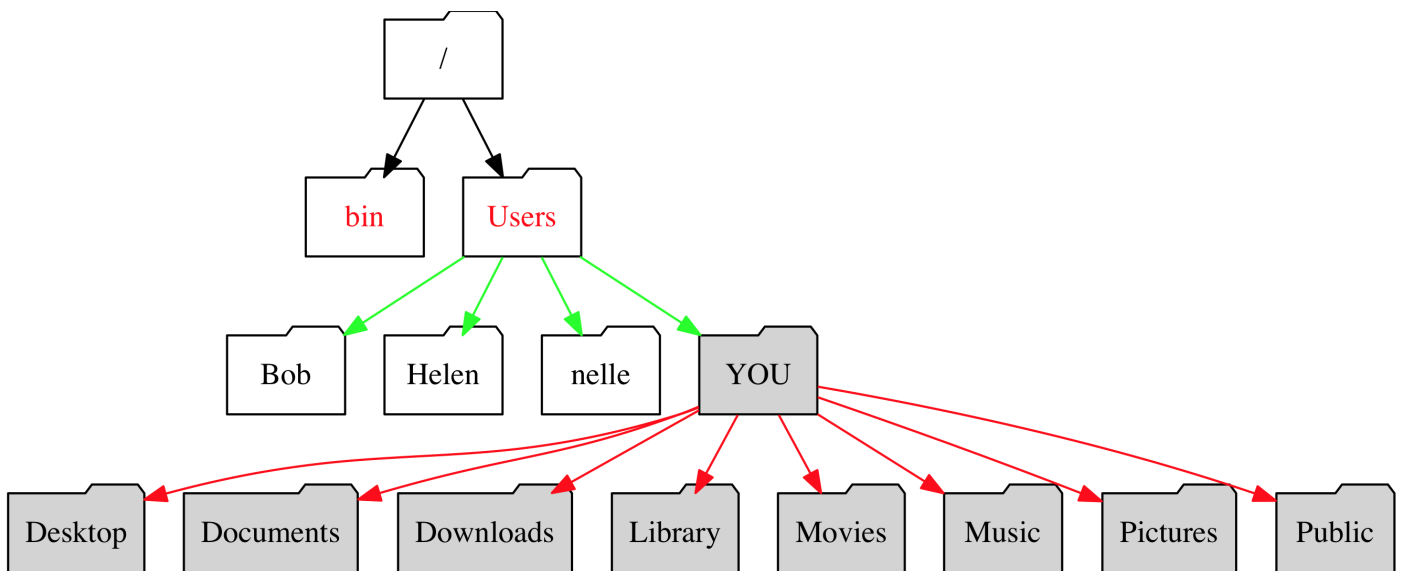
## Command-line operation: The Shell



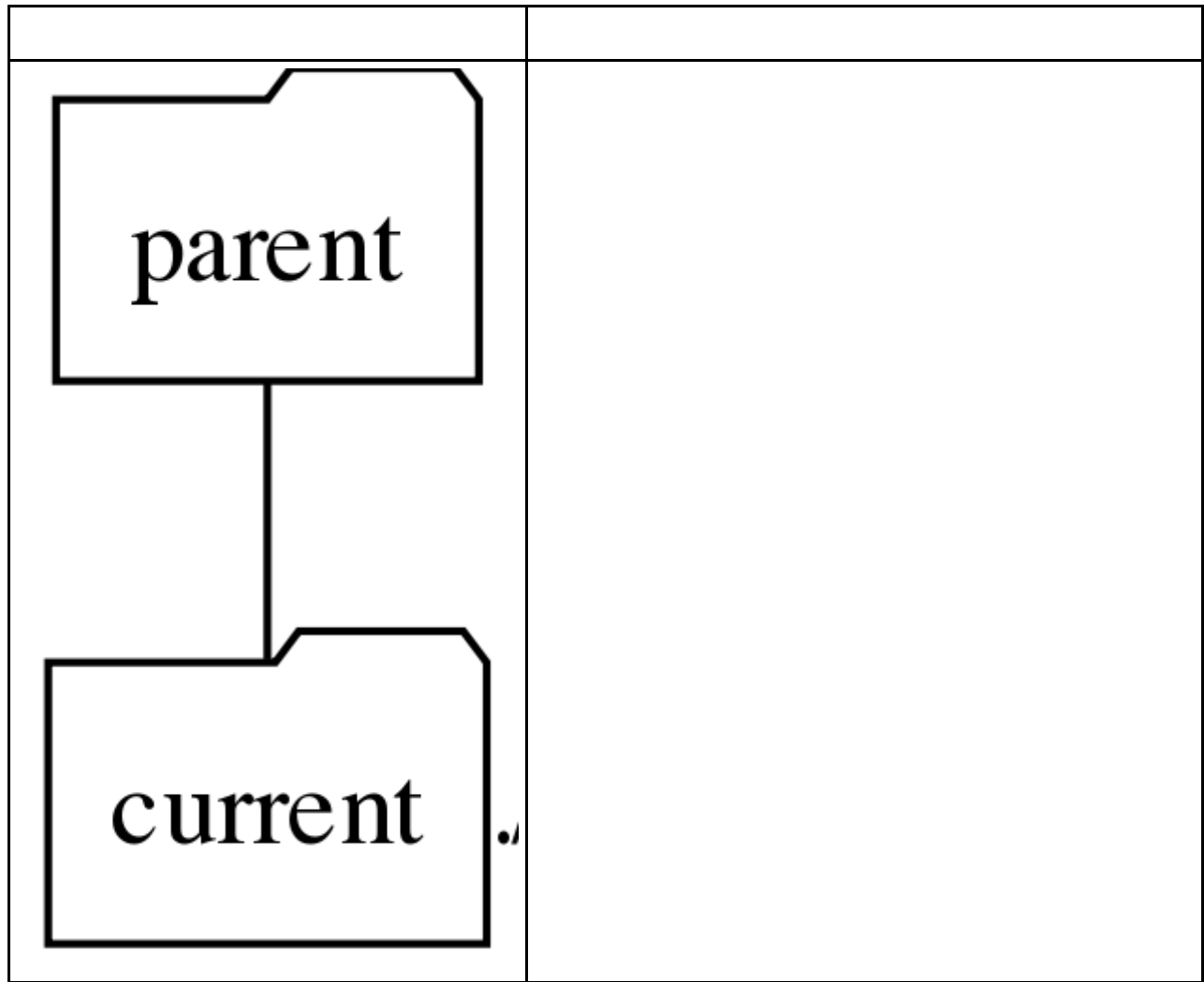
## The prompt

\$

## Your hard drive area







WH[O

(IZVS\[L! Z[HY[~~Z~~WP[~~S~~]LS

9LSH[PL]SH[~~P~~]L [V HULW[[~~O~~YY KPY

-VY L\_HTWSL \ZPUN

'RFXPHQWV

L[J

## List files

# ls

Long list of *home directory*

# ls ~

total 0

```
drwx-----+  5 YOU  AD\Domain Users  170 Mar 15 18:36 Desktop
drwx-----+  3 YOU  AD\Domain Users  102 Jun 19  2014 Documents
drwx-----+  5 YOU  AD\Domain Users  170 Mar 15 18:36 Downloads
drwx-----@ 43 YOU  AD\Domain Users 1462 Mar 15 18:36 Library
drwx-----+  3 YOU  AD\Domain Users  102 Jun 19  2014 Movies
drwx-----+  3 YOU  AD\Domain Users  102 Jun 19  2014 Music
drwx-----+  3 YOU  AD\Domain Users  102 Jun 19  2014 Pictures
drwxr-xr-x+  5 YOU  AD\Domain Users  170 Jun 19  2014 Public
```

# Groups and Privileges

In order to organize privileges and permissions the Unix system is designed around the following definitions:

User group	Definition
user	A user of the computer. Your specific user name is shown with <code>whoami</code> .
group	Multiple users can be assembled into a group e.g. from the same lab. The system administrator of the computer will create the group.
others	This is "anyone" else; on older system this was called "the world".
all	Contains everyone including user, group and anyone but not present in this listing.

Table: Definitions of user groups. In the listing above they belong to user `YOU` and group `AD\Domain Users`.

## Privileges

Privilege	Definition
d	This is a directory
r	The file can be read.
w	The file can be written or even overwritten.
x	The execute privilege. For a directory it means its content can be listed.
-	The privilege within that column is not granted.

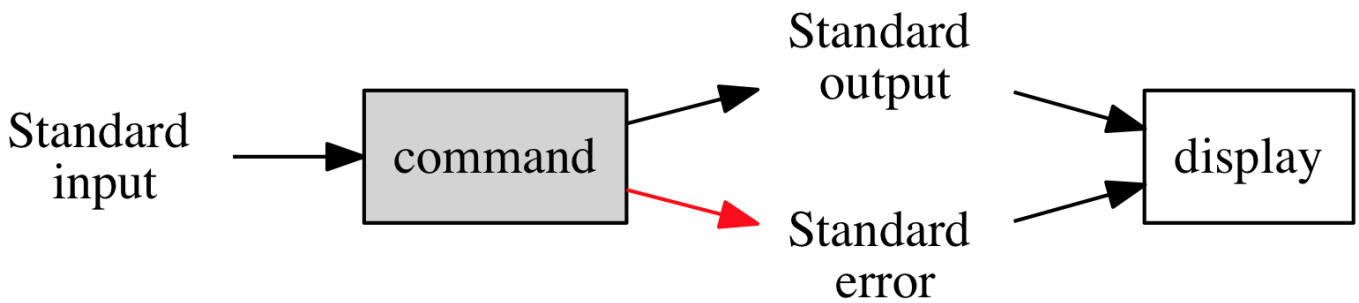
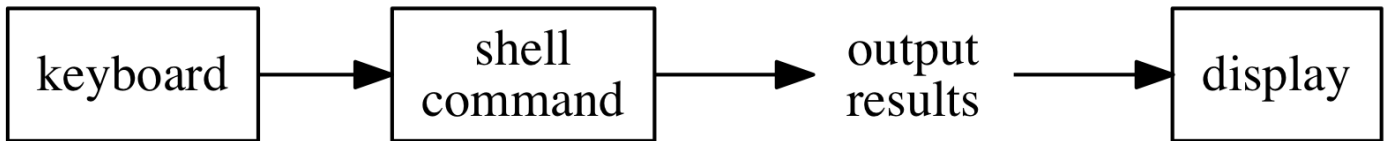
Table: Privilege tags



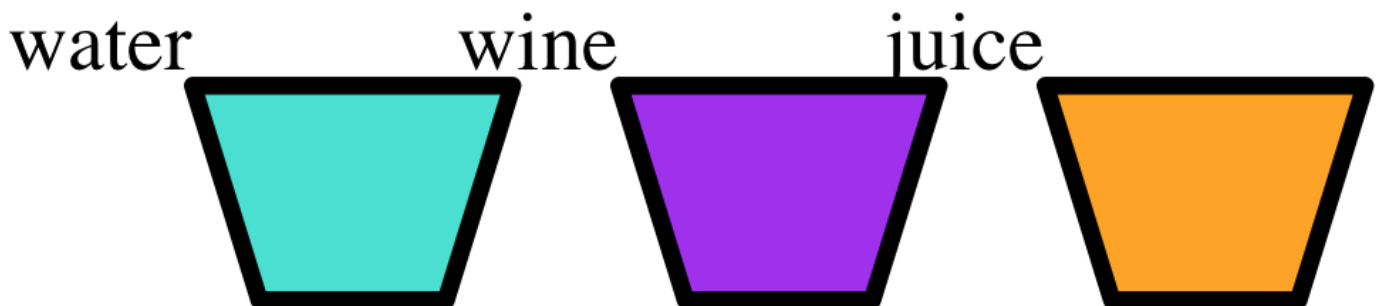
# Standard Input/Output streams

Handle	Name	Description
0	stdin	Standard input
1	stdout	Standard output
2	stderr	Standard error

Table: Understanding I/O streams numbers



## Variables



The glass content can vary. The glass is the variable, the content is the variable value.

glass



water



wine



juice



\$glass  
= water

\$glass  
= wine

\$glass  
= juice

**Separating the container and the content:**

**'glass' is the container '\$glass' is the content and can vary.**