System Commands
Week 1 - Live Session
Solve with us / Open

For the entire session try along on

- Your machine, or
- Replit

Redirecting output to a file

Use > to redirect output to file.

E.g.

$ echo "Hello world" > file.txt

Check file contents with

$ cat file.txt

Try
What if file you are redirecting already exists?

Appending to a file

Use ">>"

Will create a file if it does not exist. IF it exists will append contents at the end.

File permission for File vs Directory

File:
- **Read:** Read contents.
- **Write:** or Modify contents.
- **Execute:** E.g. a shell script file.

Directory:
- **Read**: List the contents of the directory.(e.g. ls on directory)
- **Write**: Permission to modify(add remove) files/directories inside the directory.
- **Execute**: Enter into the directory i.e. make it your current working directory.

- Files and directories do not inherit the parent directory's permissions.

File permission bits

- **rwx**
- **All three for User, Group and others as rwxrwxrwx**

For each user, group or other permissions can be expressed as an octal number between 0 to 7.
Three digit binary number, where B represents 0 or 1

B B B
r w x

E.g. Octal - 4 , Binary - 100, permission r - -
So for all three,
470, Binary 100 111 000, permission r- -rwx- - -

Octal	Binary
0	000
1	001
2	010
3	011
4	100
5	101
6	110
7	111

Try Yourself

Combinations of directory and file permissions e.g.
- Check if you can cd into directory with user permission set to rw- ?
- Without read permission try ls ?

File having all permissions but parent directory with less permissions ?

- If you want to access a file, all the parent directories should have execute permission. Check?

Symbolic links and Inode

- **Inode: Metadata for the file. E.g. size, permissions, blocks etc.**

- **Hard links**
  - **Points to the same Inode**

- **Soft links**
  - **Points to the hard link.**

TRY

- **Check inode numbers of files linked to each other**

- **Delete original file check if soft link/hard link is able to access the file.**

- **Why users cannot create hard links for directories ?**

Use of *

- To list files
- Move files
- Remove files
- etc.

Queries?