**UNIX COMMANDS**

**tar (tape archive)**

* This command is used to compress the directories and files
* Same command with some flag modification can be used to extract the information from a compressed files.   
  ***Problem Scenarios***   
  1)When a backup of directory or file is required, tar command can be used to compress it.  
  2)When we want to move files from one system to other .
* ***Options***   
  -c :- create a new archive  
  -v:- verbosely show the .tar file progress  
  -f:- file name of the type archive.  
  -x:- extracting the files.   
  -r:- like -c but new entries are appended to archive. It only works on uncompressed archives stored in regular file. The -f option is required.

**find**

This command can traverse directories and file hierarchies and can serve as a powerful tool for finding files based on different criteria such as creation date, name, etc.

***Problem Scenarios***  
1)Find all files having permission mode 777(read write execute)

2)Find files whose name matches with certain regular expressions.

**locate**

* Analogous to find it can also serve as a tool for searching files.
* The difference lies in the way of processing. Unlike find(searching file system), locate searches   
  file with the help of a database for all pathnames which matches the specified pattern.
* It is comparatively faster than find.

***Problem Scenarios***

1) Case insensitive file searching.

2)Check status of mlocate db.

**diff**

* It is a command which compares file line by line with an additional advantage, i.e., it tells the line number and instructions that are to be followed to make two files identical
* Symbols used for instructions are (a: add, c: change, d: delete)

***Problem Scenarios***

1) To find the differences between two files at different location but for same purpose

2)To find difference between files in context mode.

**tail**

* It is a utility command to see the last lines added to files through standard input.

***Problem Scenarios***

1) To find last n modifications in a file  
2) To track real time changes in a file.

**less**

* less command is generally used with large files to view the contents of file page by page.
* it is fast because it loads the content page wise rather than complete file at a time.

***Problem Scenarios***

1)Read a file page by page and exit when it reaches to end of file

2)find pattern in a file

ln

* This command is used to create links between files.
* Links help many files to refer to refer to or point to a single file in case of hard link and soft link   
  respectively.

***Problem Scenarios***   
1)Create hard link between two files.

2)Create soft link between two files.