**PROJECT REPORT**

**Project Title :** Smartdel (customized command for delete operation)

**Project Objective**

Primary goal of this project is to provide an efficient command for deleting and restoring files with same name, different names and names involving wildcard characters (viz \* , ?) .

**Project Description**

Smartdel initially creates a smartdel\_recycle bin to store the deleted files. Information about each file deleted is stored in a table located in the smartdel\_recycle bin. The row in the table is a 2-tuple storing the name of the file and its corresponding path. If files with same name are deleted smartdel checks if file already exists in the bin and gives other file a unique name.

The delete operation provides the 2-tuple (filename, filepath) to store in the table. It moves the specified file from current working directory or path to the smartdel\_recycle bin and logs the action to the table. It also supports deletion of multiple files specified using wildcard characters.

The restore operation searches the table to get the 2-tuple corresponding to specified filename. It moves the file back to the current working directory or to its original location if –o option is specified. It then deletes the 2-tuple from the table. This also supports wildcard characters such as \*, ?.

Smartdel also enables us to clear the entire smartdel\_recycle bin i.e delete all files contained in smartdel recycle bin

**Project Details**

In order to use this script file as a command following steps have to be taken:

1. Place smartdel in your bin directory
2. Navigate to bin and Run the command chmod a+x smartdel
3. Navigate back to home directory and use the smartdel command with:

|  |  |  |
| --- | --- | --- |
| 1 | smartdel –d filename/filepath | Deletes specified file from current working directory or filepath |
| 2 | smartdel –r filename | Restores specified file to current working directory |
| 3 | smartdel –o filename | Restores specified file to its original location |
| 4 | smartdel -c | Removes all files from smartdel\_recycle bin |
| 5 | smartdel –d filename\* | Deletes all files matched by the wildcard character |
| 6 | smartdel -s filename\* | Restores all files matched by the wildcard character |
| 7 | smartdel filename | Default option for deleting file from current working directory |

**Conclusion**

The smartdel command overcomes the limitations of rm command of unix by providing flexibility to delete all files matching the wildcard character. Moreover there is no in built command in unix which can restore single and multiple files. This can be achieved efficiently using smartdel.

**Appendix**

The knowledge of the following shell script terms/ commands is needed to understand this project completely:

-f filename: Check if file exists and is a regular file

-d argument: Check if given argument is a directory

$PWD: This variable stores the current working directory.

grep: This command searches for the files matching the specified pattern.

Find: Searches files or directories within entire filesystem based on the search criteria specified.

Head: Head retrieves the top line from any table or data structure

mv: Moves files from specified source location to destination location