SOFTENGER
Strive to Excel

cut, paste, sort command

Basic Unix commands

CUT COMMAND

- cut command in unix (or linux) is used to select sections of text from each line of files.
- You can use the cut command to select fields or columns from a line by specifying a delimiter or you can select a portion of text by specifying the range or characters.
- Basically the cut command slices a line and extracts the text.

cut command

- Write a unix/linux cut command to print characters by position?
  - To print the characters in a line, use the -c option in cut command

```
> cat file.txt
  unix or linux os
  is unix good os
  is linux good os
>cut -c4 file.txt
x
u
l
```

cut command

- You can print more than one character at a time by specifying the character positions in a comma separated list as shown in the below example

-
  ```
  cut -c4,6 file.txt
  ```

```
xo
ui
ln
```

This command prints the fourth and sixth character in each line.

cut command

- Write a unix/linux cut command to print characters by range?
- cut -c4-7 file.txt

```
x or
unix
linu
```

The above cut command prints the characters from fourth position to the seventh position in each line. To print the first six characters in a line, omit the start position and specify only the end position.

cut Command

- To print the characters from tenth position to the end, specify only the start position and omit the end position.

```
cut -c10- file.txt
  inux os
  ood os
  good os
```

cut command

- Write a unix/linux cut command to print the fields using the delimiter?

  You can use the cut command to extract the fields in a file using a delimiter. The -f option is used to specify the field position.

  ```
  cut  -f2 file.txt
  cut –f2,3 file.txt
  cut –f 2-5 file.txt
  ```

cut command

- To print the fields from second fields to last field, you can omit the last field position.
    - cut –d’ ’ –f2 file1.txt
- The /etc/passwd is a delimited file and the delimiter is a colon (:). The cut command to display the first field in /etc/passwd file is

  cut -d':' -f1 /etc/passwd

cut command

- **Important points on cut command in UNIX and Linux**
  - Let's revisit some important things about cut command in *NIX operating system. It's one of your helpful mates when awk command is not available.

    1) The cut command is used to display selected part of file content in UNIX.

    2) The default delimiter in cut command is "tab", you can change delimiter with the option "-d" in the cut command.

    3) The cut command in Linux allows you to select part of content by bytes, by character, and by field or column.

cut command

- **Important points on cut command in UNIX and Linux**

Continued from last slide:

4) The cut command in UNIX or Linux can work with files or you can pipe it with the output of other UNIX/Linux command.

5) In UNIX, cut -d command is used to cut by a delimiter.

6) The cut -c command option is used to get line segments by characters.

paste Command

- **paste Command Examples**:
- Create the following three files in your unix or linux servers to practice to practice the examples:

```
> cat file1
  Unix
  Linux
  Windows
    > cat file2
  Dedicated server
  Virtual server
    > cat file3
  Hosting Machine
  Operating system
```

paste Command

- Merging files in parallel

  By default, the paste command merges the files in parallel. The paste command writes corresponding lines from the files as a tab delimited on the terminal.

  ```
  > paste file1 file2
  ```

paste Command

- Specifying the delimiter

  paste command uses the tab delimiter by default for merging the files. You can change the delimiter to any other character by using the -d option.

- paste -d"|" file1 file2

```
Unix|Dedicated server
Linux|Virtual server
Windows|
```

paste Command

- Merging files in sequentially.

  You can merge the files in sequentially using the -s option. The paste command reads each file in sequentially. It reads all the lines from a single file and merges all these lines into a single line.

```
  > paste -s file1 file2
Unix Linux Windows
 Dedicated server Virtual server
   > paste –s –d”,” file1 file2
Unix ,Linux, Windows
 Dedicated server, Virtual server
```

paste Command

- Merge a file by pasting the data into 2 columns:

```
paste  -  -  < f1
```

- Fds
- Fds
- Fs
- Merge a file by pasting the file contents into 3 columns:

```
paste - - - < f1
```

- Merge a file into 3 columns using 2 different delimiters:

```
paste –d “{,” - - -  < f1
```

paste Command

- Read lines in both the files alternatively:
  $ paste -d'\n' file1 file2

sort command

- **sort command in Linux/Unix with examples**
- sort command is used to sort a file, arranging the records in a particular order. By default, the sort command sorts file assuming the contents are ASCII. Using options in sort command, it can also be used to sort numerically.
- sort command sorts the contents of a text file, line by line.
- sort is a standard command line program that prints the lines of its input or concatenation of all files listed in its argument list in sorted order.

sort Command

- The sort command is a command line utility for sorting lines of text files. It supports sorting alphabetically, in reverse order, by number, by month and can also remove duplicates.
- The sort command can also sort by items not at the beginning of the line, ignore case sensitivity and return whether a file is sorted or not. sorting is done based on one or more sort keys extracted from each line of input.
- By default, the entire input is taken as sort key. Blank space is the default field separator.

sort Command

- **The sort command follows these features as stated below:**
- Lines starting with a number will appear before lines starting with a letter.
- Lines starting with a letter that appears earlier in the alphabet will appear before lines starting with a letter that appears later in the alphabet.
- Lines starting with a lowercase letter will appear before lines starting with the same letter in uppercase.

sort Command

- sort filename.txt
- sort function with mix file i.e. uppercase and lower case : When we have a mix file with both uppercase and lowercase letters then first the lower case letters would be sorted following with the upper case letters .

sort command

- **Options with sort function**
- **-o Option :** Unix also provides us with special facilities like if you want to write the **output to a new file**, output.txt, redirects the output like this or you can also use the built-in sort option -o, which allows you to specify an output file.
  Using the -o option is functionally the same as redirecting the output to a file.
- $ sort file.txt > output.txt
- $ sort -o output.txt file.txt
- $ cat output.txt

sort Command

- **n Option** : To sort a file **numerically** used –n option. -n option is also predefined in unix as the above options are. This option is used to sort the file with numeric data present inside.
- sort –n file name

sort Command

- **- c option :** This option is used to check if the **file given is already sorted or not** & checks if a file is already sorted pass the -c option to sort. This will write to standard output if there are lines that are out of order.The sort tool can be used to understand if this file is sorted and which lines are out of order.
- sort –c file name
- **If there is no output then the file is considered to be already sorted**

sort command

- **u option :** To **sort and remove duplicates** pass the -u option to sort. This will write a sorted list to standard output and remove duplicates. This option is helpful as the duplicates being removed gives us an redundant file.
- sort –u file name

Find command in unix

- find command is used to search files in a directory hierarchy.
- find searches the directory tree rooted at each given file name by evaluating the given expression from left to right.
- Some useful options of find command:
  - find *-inum n (searches file by the given inode number ‘n’)*
  - find *–links n (searches file by the given exactly ‘n’ hardlinks)*
  - find *–mtime n (searches file by last modified exactly n*24 ago)*
  - find *–name pattern (searches file by given name as pattern)*
  - find *–perm mode (searches file by given mode of permission i.e. 644 or*
  - find *–type type of file (searches file by it’s type i.e. ‘b=block special’, ‘=character special’, ‘d=directory’, ‘f=regular file’, ‘l=symbolic link’,*
  - find *–user username (searches files owned by given username)*

Find examples

- find . –name passwd1.txt

  (*searches file named passwd1.txt in current directory)*
- find / –type d –name test*

  (searches all directories name started with test in path /)
- find . –type f –perm 777 –print

  (*searches all files whose permission are 777 in current directory)*
- find /tmp –user oracle

  Find all files that belongs to user oracle in /tmp directory
- find empty files (zero size)

  find . –type f –empty
- find all files in /usr that were modified within the last 30 days

  find /usr -type f –mtime -30
- find all files that were modified more than 30 days ago in /usr

  find /usr –type –f –mtime +30