Memory Related Commands

1) df command

-> df stands for disk free or disk fragmentation

-> df command is used to display "file system" disk space usage

-> df command provides information about space available on all currently
   mounted file system

-> How to use df command?
Ans: simply type df and press enter.

-> Ones command get executed it shows information the column format
   Like FileSystem name, Total allocated size , used size , available size

-> bydefault size get displayed in KB

-> options of df command

    i) -h : human readable format (In GB)
    ii) -m : in Mega Bytes
    iii) -k : in Kilo bytes (It is default)
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2) du command

-> du stands for disk usage
-> du command estimate "file" space usage
-> by default, du command display directory wise disk usage

-> How to use du command?
Ans: simply type du and press enter

-> options of du command
  i) -h human readable format (Size is in GB)

  ii) -m Size is in MB

  iii) -k size in KB (It is default)

   iv) -c : total size count

Note: by default, du command display disk information only about directory.
if we want know file information also then use -a option

Q. What is difference between du and df command?

df	du
1) df stands for disk fragmentation 2) df command display file system disk usage	1) du stands for disk usage 2) du command display file disk usage

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3) free command

-> free command is used to display amount of free and used memory
   in the system

-> free command talks about RAM memory

-> How to use free command?
Ans: simply type free and press enter

-> options of free command
  i) -h human readable format
  ii) -k display size in KB
  iii) -m display size in MB
  iv) -l display low and high memory
  v) -t shows column total

Note: memory related information is available in /proc/meminfo file
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root@DESKTOP-1VT9LL4:~# free -h
            total        used        free      shared  buff/cache   available
Mem:         3.9G        3.4G        294M         17M        223M        387M
Swap:         12G        2.2G        9.8G
root@DESKTOP-1VT9LL4:~#
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1) total : total installed memory

2) used : used memory

3) free : not used or free memory

4) shared : display the memory used by tmpfs(Temporary File System) file system

5) buffer : memory used by kernal buffer

6) buff/cache : sum of buffer and cache

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Q. What is mean by swap memory?
-> swap is small space available on hard disk
   and that is used when RAM is full.

-> When system runs out of RAM, in that case inactive
   pages are moved to swap memory

Q. What is buffer memory?
-> small portion of RAM which is reserved and which to hold temporary data

-> Commonly buffer holds data which is received from or sent
   to external devices like-printer, keyboard, HDD)
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Q. What is mean by cache memory?

Ans -> It is supplementary memory and which acts as  temporary storage

     -> cache holds frequently used instructions and data

     -> due to cache system performance is improved

     -> cache memory is bridge between CPU and RAM

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Keys difference between buffer memory and cache memory

1) Buffer exists only in the RAM but cache exist either on RAM or hard disk

2) Buffer stores original data whereas cache store copy of original data

3) Buffer made of DRAM (Dynamic RAM) whereas cache is made of SRAM (static RAM)

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