### UNIX File System & Permissions

1. Give the execute permission for the user for a file chap1:  
   bash  
   CopyEdit  
   chmod u+x chap1
2. Give execute permission for user, group, and others for a file add.c:  
   bash  
   CopyEdit  
   chmod a+x add.c
3. Remove the execute permission from user, give read permission to group and others for a file aa.c:  
   bash  
   CopyEdit  
   chmod u-x,go+r aa.c
4. Give execute permission for users for a.c, kk.c, nato, and myfile using a single command:  
   bash  
   CopyEdit  
   chmod u+x a.c kk.c nato myfile
5. Change the directory to root directory. Check the system directories, like bin, etc, usr, etc.:  
   bash  
   CopyEdit  
   cd /
6. ls bin etc usr

### Using Pipes and Filters

1. Redirect the content of the help document ls, into a file called as lsdoc:  
   bash  
   CopyEdit  
   ls --help > lsdoc
2. Display the content of the lsdoc page wise:  
   bash  
   CopyEdit  
   less lsdoc
3. Display only the first 4 lines of the lsdoc file:  
   bash  
   CopyEdit  
   head -n 4 lsdoc
4. Display only the last 7 lines of the file lsdoc:  
   bash  
   CopyEdit  
   tail -n 7 lsdoc
5. Remove the file lsdoc:  
   bash  
   CopyEdit  
   rm lsdoc
6. There will be B’day celebration from the friends file, find how many B’day parties will be held. If two of the friends have the B’date on the same day, then we will be having one party on that day:  
   bash  
   CopyEdit  
   awk '{print $3}' friends | sort | uniq | wc -l
7. Display the lines starting with Ma, in the file friends:  
   bash  
   CopyEdit  
   grep '^Ma' friends
8. Display the lines starting with Ma, ending with i or ending with id, in the file friends:  
   bash  
   CopyEdit  
   grep '^Ma.\*\(i\|id\)$' friends
9. Print all the files and the directory files from the current directory across all the subdirectories, along with its path:  
   bash  
   CopyEditfind . -type f
10. Print only the Directory files:  
    bash  
    CopyEdit  
    find . -type d
11. Display the files starting with chap, along with its path:  
    bash  
    CopyEdit  
    find . -type f -name 'chap\*'
12. Sort the file friends in ascending order of names:  
    bash  
    CopyEdit  
    sort friends
13. Display the contents of the file friends in uppercase letters:  
    bash  
    CopyEdit  
    cat friends | tr '[a-z]' '[A-Z]'
14. Store the contents of your home directory in a file called dir:  
    bash  
    CopyEdit  
    ls ~ > dir
15. From the above file dir, display the file permissions and the name of the file only:  
    bash  
    CopyEdit  
    ls -l $(cat dir) | awk '{print $1, $9}'
16. From the same dir file, store only the file names in a file called files:  
    bash  
    CopyEdit  
    ls -l $(cat dir) | awk '{print $9}' > files
17. From the same dir file, store only the permissions of files in a file called perms:  
    bash  
    CopyEdit  
    ls -l $(cat dir) | awk '{print $1}' > perms
18. From the same dir file, store only the file sizes in a file called sizes:  
    bash  
    CopyEdit  
    ls -l $(cat dir) | awk '{print $5}' > sizes
19. Display the file names, sizes, and permissions from your directory in that order:  
    bash  
    CopyEdit  
    ls -l | awk '{print $9, $5, $1}'
20. Display the number of users working on the system:  
    bash  
    CopyEdit  
    who | wc -l
21. Find out the smallest file in your directory:  
    bash  
    CopyEdit  
    ls -lS | tail -n 1
22. Display the total number of lines present in the file friends:  
    bash  
    CopyEdit  
    wc -l friends
23. Write a command sequence that prints out date information in this order: time, day of the week, day number, month, year (e.g., 13:44:42 IST Sun 16 Sept 1994):  
    bash  
    CopyEdit  
    date "+%T %A %d %b %Y"
24. Write a command sequence that prints the names of the files in the current directory in descending order of the number of links:  
    bash  
    CopyEdit  
    ls -l | sort -k2 -n -r | awk '{print $9}'
25. Write a command sequence that prints only names of files in the current working directory in alphabetical order:  
    bash  
    CopyEdit  
    ls -1 | sort
26. Write a command sequence to print names and sizes of all the files in the current working directory in order of size:  
    bash  
    CopyEdit  
    ls -lS | awk '{print $9, $5}'
27. Determine the latest file updated by the user:  
    bash  
    CopyEdit  
    ls -lt | head -n 1