**UNIX File System & Permissions**

**1: Give the execute permission for the user for a file chap1.**

**🡪chmod u+x chap1**

**2: Give execute permission for user, group and others for a file add.c**

**🡪chmod +x add.c**

**3: Remove the execute permission from user, give read permission to group and others for a file aa.c**

**🡪chmod u-x,g+r,o+r aa.c**

**4: Give execute permission for users for a.c, kk.c, nato and myfile using single command.**

**🡪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.**

* **cd /**
* **ls**

**Using Pipes and Filters**

**1: Redirect the content of the help document ls, into a file called as lsdoc.**

**🡪** **man ls > lsdoc**

**2: Display the content of the lsdoc page wise.**

**🡪** **less lsdoc**

**3: Display only the first 4 lines of the lsdoc file.**

**🡪** **head -n 4 lsdoc**

**4: Display only the last 7 lines of the file lsdoc.**

**🡪** **tail -n 7 lsdoc**

**5: Remove the file lsdoc.**

**🡪** **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.**

**🡪** **cut -d' ' -f2 friends | sort | uniq | wc -l**

**7: Display the lines starting with Ma, in the file friends.**

**🡪** **grep '^Ma' friends**

**8: Display the lines starting with Ma, ending with i or ending with id, in the file friends.**

**🡪** **grep '^Ma.\*\(i\|id\)$' friends**

**9: Print all the files and the directory files from the current directory across all the sub directories, along with its path**

**🡪** **find . -type f -o -type d**

**10: Print only the Directory files.**

**🡪find . -type d**

**11: Display the files starting with chap, along with its path.**

**🡪** **find . -type d**

**12: Sort the file friends in ascending order of names.**

**🡪** **sort friends**

**13: Display the contents of the file friends in uppercase letters.**

**🡪** **cat friends | tr '[:lower:]' '[:upper:]'**

**14: Store the contents of your home directory in a file called dir.**

**🡪** **ls -l ~ > dir**

**15: From the above file dir, display the file permissions and the name of the file only.**

**🡪** **awk '{print $1, $9}' dir**

**16: From the same dir file, store only the file names in a file called files.**

**🡪** **awk '{print $9}' dir > files**

**17: From the same dir file, store only the permissions of files in a file called perms.**

**🡪** **awk '{print $1}' dir > perms**

**18: From the same dir file, store only the file sizes in a file called sizes.**

**🡪** **awk '{print $5}' dir > sizes**

**19: Display the file names, sizes and permissions from your directory in that order.**

**🡪** **awk '{print $9, $5, $1}' dir**

**20: Display the number of users working on the system.**

**🡪** **who | wc -l**

**21: Find out the smallest file in your directory.**

**🡪** **ls -S | tail -1**

**22: Display the total number of lines present in the file friends.**

**🡪** **wc -l friends**

**23: Create the following fixed record format files (with “|” delimiter between fields) with the structure given below, and populate them with relevant data use these files to solve following questions**

**emp.lst: Empid(4),Name(18),Designation(9),Dept(10),Date of Birth(8),Salary(5)**

**dept.lst: Dept.Code (2), Name (10), Head of Dept’s id(4)**

**desig.lst: Designation Abbr.(2), Name (9)**

1. **Find the record lengths of each file.**

**🡪** **awk -F'|' '{print length}' emp.lst**

1. **Display only the date of birth and salary of the last employee record.**

**🡪** **tail -1 emp.lst | awk -F'|' '{print $5, $6}'**

**3. Extract only employee names and designations. (Use column specifications).**

**Save output as cfile1.**

**🡪** **awk -F'|' '{print $2, $3}' emp.lst > cfile1**

**4. Extract Emp.id, dept, dob and salary. (Use field specifications). Save output as**

**cfile2.**

**🡪** **awk -F'|' '{print $1, $4, $5, $6}' emp.lst > cfile2**

**5. Fix the files cfile1 and cfile2 laterally, along with the delimiter.**

**🡪** **paste -d'|' cfile1 cfile2**

**6. Sort the emp.lst file in reverse order of Emp. Names.**

**🡪sort -t'|' -k2r emp.lst**

**7. Sort the emp.lst file on the salary field, and store the result in file srtf.**

**🡪sort -t'|' -k6n emp.lst > srtf**

**8. Sort the emp.ls t file on designation followed by name.**

**🡪sort -t'|' -k3,3 -k2,2 emp.lst**

**9. Sort the emp.lst file on the year of birth.**

**🡪sort -t'|' -k5.1,5.4 emp.lst**

**10. Find out the various designations in the employee file. Eliminate duplicate**

**listing of designations.**

**🡪cut -d'|' -f3 emp.lst | sort | uniq**

**11. Find the non-repeated designation in the employee file.**

**🡪cut -d'|' -f3 emp.lst | sort | uniq -u**

**12. Find the number of employees with various designations in the employee file.**

**🡪cut -d'|' -f3 emp.lst | sort | uniq -c**

**13. Create a listing of the years in which employees were born in, along with**

**number of employees born in that year.**

**🡪cut -d'|' -f5 emp.lst | cut -d'-' -f1 | sort | uniq -c**

**14. Use nl command to create a code table for designations to include designation**

**code (Start with dept. code 100, and subsequently 105, 110 …).**

**🡪cut -d'|' -f3 emp.lst | sort | uniq | nl -v100 -i5**

**24: PCS has its offices at Pune, TTC and Mumbai. The employees’ data is stored**

**separately for each office. Create appropriate files (with same record structure as**

**in previous assignment) and populate with relevant data.**

1. **List details about an employee ‘Manu Sharma’ in the Mumbai office.**

**🡪grep 'Manu Sharma' mumbai\_office.lst**

**2. List only the Emp.Id. And Dept. of Manu Sharma.**

**🡪grep 'Manu Sharma' mumbai\_office.lst | cut -d'|' -f1,4**

**3. List details of all managers in all offices. (O/P should not contain file names.).**

**🡪grep 'Manager' pune\_office.lst ttc\_office.lst mumbai\_office.lst**

**4. Find the number of S.E. in each office.**

**🡪grep 'S.E.' pune\_office.lst | wc -l**

**grep 'S.E.' ttc\_office.lst | wc -l**

**grep 'S.E.' mumbai\_office.lst | wc -l**

**5. List only the Line Numbers and Employee names of employees in ‘H/W’ in**

**Pune file.**

**🡪grep -n 'H/W' pune\_office.lst | awk -F'|' '{print $1, $2}'**

**6. Obtain a listing of all employees other than those in ‘HR’ in the Mumbai file**

**and save contents in a file ‘nonhr’.**

**🡪grep -v 'HR' mumbai\_office.lst > nonhr**

**7. Find the name and designation of the youngest person who is not a manager.**

**🡪grep -v 'Manager' \*.lst | sort -t'|' -k5,5r | head -1**

**8. Display only the filename(s) in which details of employee by the name**

**‘Seema Sharma’ can be found.**

**🡪grep -l 'Seema Sharma' \*.lst**

**9. Locate the lines containing saxena and saksena in the Mumbai office.**

**🡪grep -i 'saxena\|saksena' mumbai\_office.lst**

**10. Find the number of managers who earn between 50000 and 99999 in the Pune**

**office.**

**🡪awk -F'|' '$3=="Manager" && $6>=50000 && $6<=99999' pune\_office.lst | wc -l**

**11. List names of employees whose id is in the range 2000 – 2999: in Pune**

**Office; in all offices.**

**🡪awk -F'|' '$1 >= 2000 && $1 <= 2999 {print $2}' pune\_office.lst**

**12. Locate people having same month of birth as current month in Pune office.**

**🡪awk -F'|' -v month=$(date '+%m') '$5 ~ "-"month"-"' pune\_office.lst**

**13. List details of all employees other than those of HR and Admin in file F1.**

**🡪grep -v 'HR\|Admin' F1**

**14. Locate for all Dwivedi, Trivedi, Chaturvedi in Pune file.**

**🡪grep 'Dwivedi\|Trivedi\|Chaturvedi' pune\_office.lst**

**15. Obtain a list of people in HR, Admin and Recr. depts. sorted in reverse order**

**of the dept.**

**🡪grep 'HR\|Admin\|Recr' F1 | sort -r -t'|' -k4**

**25: Write a command sequence that prints out date information in this order: time,**

**day of week, day number, month, year :**

**13:44:42 IST Sun 16 Sept 1994**

**🡪date '+%T %Z %a %d %b %Y'**

**26: Write a command sequence that prints the names of the files in the current**

**directory in the descending order of number of links.**

**🡪ls -l | sort -k2,2nr**

**27: Write a command sequence that prints only names of files in current working**

**directory in alphabetical order.**

**🡪ls | sort**

**28: Write a command sequence to print names and sizes of all the files in current**

**working directory in order of size.**

**🡪ls -lS | awk '{print $9, $5}'**

**29: Determine the latest file updated by the user.**

**🡪ls -lt | head -2 | tail -1**