**ROLLNO:03**

**NAME:BENDRE PRATIKSHA GANESH**

**PROBLEMSHEET-01**

1. Display name of all files in current directory where the first character is numeric and last character is not alphabet.

🡪 Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ ls -d [0-9]\*[^A-Za-z]

1ab1/ 1f1

2. To display name of all files of current directory in descending order of file size whose 1st character is not digit.

🡪Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ ls -rsd [^0-9]\*

1 while 1 until 0 ps4/ 1 for 0 file/ 1 f2 0 'f1hh#\*h' 1 f1 0 dir/ 1 data.txt 0 cat 0 abfile/ 0 abdir/ 0 ab/ 0 a1/ 1 %file

3. To display name of all files of current directory whose last character is not digit. (Do not use ls command)

🡪 Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ echo \*[0-9]

1ab1 1f1 a1 f1 f2 ps4

4 To display name of all files associated with their i-node number of current directory.

🡪 Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ ls -i

16044073672513847 %file 5348024557580887 a1/ 54887620458602192 cat 38562071809400109 'f1hh#\*h' 12947848928699265 ps4/

12384898975347255 1ab/ 17732923532849724 ab/ 9007199254824367 data.txt 23362423066988299 f2 19421773393073731 until

82753643152966328 1ab1/ 6473924464371237 abdir/ 46443371157277344 dir/ 6192449487712853 file/ 6192449487649396 while

54043195528494585 1f1 14918173765679168 abfile/ 33214047251862154 f1 19140298416502985 for

5. Remove directory tree dir/dir2/dir3 from current working directory using single command.

🡪 Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ rmdir -p dir1/dir2/dir3

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ ls -r

while until ps4/ for file/ f2 'f1hh#\*h' f1 dir/ data.txt cat abfile/ abdir/ ab/ a1/ 1f1 1ab1/ 1ab/ %file

6. Display name of users who are currently logged in to UNIX system.

🡪 Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ whoami

anjal

7. List name of all files that start with digit but do not end with digit.

🡪 Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ ls -d [0-9]\*[^0-9]

1ab/

8. Remove all files of current directory whose name begins with \*.

🡪Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ cd

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ mkdir \*tmt

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ rmdir [\*]\*

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ ls

bca1 bca1b bca2 bca2b bca3b bca4 d1 dir1 home myproblemsheet problemsheet1 ps1 tybca

9. Add some more content in f1 file of sem5 directory.

🡪 Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix/sem5

/sem5

$ cat >> f1

i like you bheavior

nice to meet you

bye

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix/sem5

$ cat f1

hey girl

you looking nice

always graceful

i like you bheavior

nice too meet you

bye

10. Copies all files or subdirectories from sem5 to sem6 directory.

🡪 Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ cp -r sem5 sem6

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ cd sem6

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix/sem6

$ ls

f1 sem5/ sem6/

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix/sem6

$ cd sem5

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix/sem6/sem6

$ ls

f1 sem6/

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix/sem6/sem5

$

11. Display name of all files whose name start with AB in any case based on descending order of modification date & time.

🡪Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ ls -trd [Aa][Bb]\*

ab/ abfile/ abdir/

12. Copy file f1 to f2 without using cp command.

🡪Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ cat < f1 > f2

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ cat f2

hii

hello

happy gandhi jayanti

happy Sunday

happy October

unix shell programming

webframework and services

Asp.net

Network technology

hello;

hii;

hey;girl

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ cat f1

hii

hello

happy gandhi jayanti

happy Sunday

happy October

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hello;

hii;

hey;girl

13. Copy file f1 to f3. (F3 file contain line number at begging of each line).

🡪Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ cat f3

1 hii

2 hello

3 happy gandhi jayanti

4 happy Sunday

5 happy October

6 unix shell programming

7 webframework and services

8 Asp.net

9 Network technology

10 hello;

11 hii;

12 hey;girl

14. Display Date in DD:MON:YYYY

🡪Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ date "+%d:%b:%y"

02:Oct:23

15. Rename f1 to f2 and move it to directory d1 of sem5 directory.

🡪 Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ mv f1 sem5/d1/f2

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ ls sem5/d1

f2

16. Move all files from sem5 to sem6 directory having at least 2 alphabet characters in filename.

🡪Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ mv -fi sem5/\*[a-zA-Z]\*[a-zA-Z]\* sem6/

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ ls sem5

f1 f3/

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ ls sem6

bca1b/ bca5/ sem5/ f1 f3/

17. Create Sem5 directory in mydir directory and provide owner to all access permission, group user to write and other user to read permission using octal as well as symbolic notations.

sol:-mkdir -pm 724 mydir/sem5

-> mkdir -pm u=rwx,g=w,o=r mydir/sem6

ls -l mydir

total 0

drwx-w-r--. 2 bca61b tybcab 7 Aug 2 10:51 sem5

drwx-w-r--. 2 bca61b tybcab 7 Aug 2 10:53 sem6

18. Check whether file f1 exists in sem5 directory or not?

🡪Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ ls sem5

d1/ f1 sem6/

19. Assume that a user doesn't know his/her home directory. Write a possible ways to switch to his/her home directory.

🡪cd

cd~

20. List name of all file or directories which start with any character but second character must be digit.

sol:-

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ ls -d ?[0-9]\*

a1/ 'f1hh#\*h' f2 f3

**ROLLNO-03**

**NAME:BENDRE PRATIKSHA GANESH**

**PROBLEMSHEET-2**

UNIX command for the following

1. Display username and login time (in hh:mm form) of all users who are currently logged in to UNIX system.

🡪 [bca3b@localhost ~]$ who am i

bca3b pts/7 2023-08-14 09:44 (192.168.1.169)

[bca3b@localhost ~]$ date +%T

09:58:28

2. Display content of file f1 without using cat command.

🡪 bca3b@localhost sem6]$ cut -c1- f1

hello

hii

goodmorning

independence day

3. Count file names of working directory each having first character as digit.

🡪Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

ls -1d [0-9]\*|wc -l

2

4. Display name of directories present in working directory.

🡪 Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

ls -d \*/

11/ d1/ dir/ dir2/ fii/ home/ sem5/ unix/ user/

5. Count number of directories of working directory whose name ends with digit.

🡪Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

ls -d \*[0-9]/|cat -n|wc -l

1

6. Display -5 characters directories name present in current directory.

🡪 [bca3b@localhost ~]$ ls -d ?????/

mydir/

7. Count number of hidden files present in current directory.

🡪 [bca3b@localhost ~]$ ls -a|cat -n|wc -l

18

8. Convert content of file f1 from lowercase to upper case and vice versa.

🡪 [bca3b@localhost sem6]$ tr 'A-Za-z' 'a-zA-Z' < f1

HELLO

HII

GOODMORING

INDEPEDENC DAY

9. Count number of consonant present in file f1.

🡪[bca3b@localhost sem6]$ tr -d 'AEIOUaeiou' < f1|wc -c

15

10. Count number of digits present in 5th line of file f1.

🡪 [bca45b@localhost sem6]$ tr -d 'A-Za-z ' < f1|head -5|tail -1|wc -c

3

11. Count number of words present in 5th line of file f1. (Do not use wc .w).

🡪 [bca45b@localhost sem6]$ head -5 f1|tail -1|wc -c

8

12. Count number of lines present in file f1. (Do not use wc command).

🡪Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ cat -n f1

1 hii

2 hello

3 happy gandhi jayanti

4 happy Sunday

5 happy October

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13. Display filename of working directory whose name begins with special character.

🡪Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ ls -d [^a-zA-Z0-9]\*

%file

14. Take some lines from standard input and add them between two files f1 and f2. That is,

content of file f1, then standard input lines and lastly content of file f2.

🡪Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ cat f1 - f2

hii

hello

happy gandhi jayanti

happy Sunday

happy October

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midline code

midline code

lastly content of f2

lastly content of f2

hello

good morning

unix shell

Asp.net

15. Create a duplicate file of file named f1 to f2. (Do not use cp command).

🡪Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ cat f1|cat > f2

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ cat f2

hii

hello

happy gandhi jayanti

happy Sunday

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~

**ROLLNO-03**

**NAME:BENDRE PRATIKSHA GANESH**

**PROBLEMSHEET-3**

1.Write a script to input emp-no, name and basic pay and display it as under following Format:

Emp No:

Name :

Basic :

Gross Salary :

Net Salary:

Where Gross salary = DA + HRA

Net Salary= Gross salary - Deduction

Deduction = PF + PT

DA= 49% of Basic

HRA= 15 % of Basic

PF= 12% of (Basic + DA)

PT = 6o Rs. if Basic <= 6000

= 90 Rs. if Basic >6000 and <=9000

= 120 Rs. Otherwise

**Vi employee.sh:-**

echo -n "Enter employee Number : "

read eno

echo -n "Enter Name :"

read ename

echo -n "Enter Basic Salary : "

read bs

echo ""

DA=`expr $bs \\* 120 / 100`

HRA=`expr $bs \\* 15 / 100`

temp=`expr $bs + $DA`

PF=`expr $temp \\* 12 / 100`

GS=`expr $DA + $HRA`

PT=`expr $GS \\* 10 / 100`

deduction=`expr $PF + $PT`

NS=`expr $GS - $deduction`

echo "Employee Number : $eno"

echo "Employee Name : $ename"

echo "Basic Salary : $bs"

echo "Gross Salary : $GS"

echo "Net Salary : $NS"

echo " DA = $DA \n HRA = $HRA \n temp = $temp \n PF = $PF \n GS = $GS \n PT = $PT \n deduction = $deduction \n NS = $NS \n"

Output:

anjal@LAPTOP-4EVIHG9U MINGW64 ~/unix

$ sh employee.sh

Enter employee Number : 3

Enter Name :pratiksha bendre

Enter Basic Salary : 40000

Employee Number : 3

Employee Name : pratiksha bendre

Basic Salary : 40000

Gross Salary : 54000

Net Salary : 38040

DA = 48000 \n HRA = 6000 \n temp = 88000 \n PF = 10560 \n GS = 54000 \n PT = 5400 \n deduction = 15960 \n NS = 38040 \n

2.Write a Menudriven Shell Script to perform following operation on 2 inputted Floating Point Number.

1. Addition

2. Subtraction

3. Multiplication

4. Division

Vi menudriven.sh:-

until test $ch -eq 5

do

echo -n "1 : Addition \n2 : Subtraction \n3 : Multiplication \n4 : Division \n5 : Exit \nEnter Your Choice : "

read ch

if test $ch -ge 1 -a $ch -le 4

then

echo -n "Enter First operand : "

read a

echo -n "Enter Second operand : "

read b

fi

case $ch in

1) #add

echo "\n$a + $b = `expr $a + $b`\n "

;;

2) #sub

echo "\n$a - $b = `expr $a - $b`\n"

;;

3) #multi

echo "\n$a \* $b = `expr $a \\* $b`\n"

;;

4) #division

echo "\n$a / $b = `expr $a / $b`\n"

;;

5) #exit

;;

\*) #default

echo "Wrong Choice!!"

;;

esac

done

output:-

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ sh menudriven.sh

1 : Addition \n2 : Subtraction \n3 : Multiplication \n4 : Division \n5 : Exit \nEnter Your Choice : 1

Enter First operand : 20

Enter Second operand : 20

\n20 + 20 = 40\n

1 : Addition \n2 : Subtraction \n3 : Multiplication \n4 : Division \n5 : Exit \nEnter Your Choice : 5

3. Write a shell script to input file name from command line and display content of file in reverse order [last line -> first line]

**Vi inputedfile.sh:-**

Sort / cut / sed

fnm=$f1

cat -n $f1 | sort -rn

~

~

**Output:-**

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ sh inputedfile.sh

hello

i am shivangi

2 i am shivangi

1. hello

04.Write shell script to print a given numbers in a reverse order. It must support following requirements

* The script should accept the input from command line
* If user didn't give input any data then display error message to execute script correctly

**Vi reverse.sh:-**

if test -z $1

then

echo "Operation Failed!"

echo "Enter a number at Command Line"

else

num=$1

rev=0

rem=0

while test $num -gt 0

do

rem=`expr $num % 10`

rev=`expr $rev \\* 10 + $rem`

num=`expr $num / 10`

done

echo "Reverse of $1 is $rev"

fi

~

**Output:-**

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ sh reverse.sh 45

Reverse of 45 is 54

05. Write shell script to perform following operations on each line using menu [file name will come from command line](menu driven program)

* count number of vowels
* count number of digits
* count number of alphabets
* count number of special characters

**vi alphabetmenu.sh:-**

if test -z $1

then

echo "Operation Failed!"

echo "Enter a File name"

else

fnm=$1

until test $ch -eq 5

do

echo -n "\n1 : Count number of vowels \n2 : Count number of digits \n3 : Count number of alphabets \n4 : Count number of special characters \n5 : Exit \nEnter Your Choice : "

read ch

case $ch in

1) #vowels

#cnt=`grep '[aeiouAEIOU]' $1 | wc -c`

cnt=` tr -cd 'aeiouAEIOU' < $1 | wc -c`

echo "Number of Vowels in file $1 : $cnt"

;;

2) #digits

cnt=` tr -cd '[0-9]' < $1 | wc -c`

echo "Number of Digits in file $1 : $cnt"

;;

3) #alphabets

cnt=` tr -cd '[A-Za-z]' < $1 | wc -c`

echo "Number of Alphabets in file $1 : $cnt"

;;

4) #special characters

cnt=` tr -d '[A-Za-z0-9]' < $1 | wc -c`

echo "Number of Alphabets in file $1 : $cnt"

;;

5) #exit

;;

\*) #default

echo "Wrong Choice!"

;;

esac

done

fi

**Output:-**

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ cat > f1

hello

good night

let's mmet in morinig

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ sh alphabetmenu.sh f1

alphabetmenu.sh: line 7: test: -eq: unary operator expected

\n1 : Count number of vowels \n2 : Count number of digits \n3 : Count number of alphabets \n4 : Count number of special characters \n5 : Exit \nEnter Your Choice : 1

Number of Vowels in file f1 : 11

\n1 : Count number of vowels \n2 : Count number of digits \n3 : Count number of alphabets \n4 : Count number of special characters \n5 : Exit \nEnter Your Choice : 3

Number of Alphabets in file f1 : 31

\n1 : Count number of vowels \n2 : Count number of digits \n3 : Count number of alphabets \n4 : Count number of special characters \n5 : Exit \nEnter Your Choice : 2

Number of Digits in file f1 : 0

\n1 : Count number of vowels \n2 : Count number of digits \n3 : Count number of alphabets \n4 : Count number of special characters \n5 : Exit \nEnter Your Choice : 4

Number of Alphabets in file f1 : 10

\n1 : Count number of vowels \n2 : Count number of digits \n3 : Count number of alphabets \n4 : Count number of special characters \n5 : Exit \nEnter Your Choice :

06. Write a shell script that accept the string followed by 1 or more file name from command line and display number of words and number of lines that contain s given string in each file.

**Vi filename.sh:-**

str=$1

shift 1

for fnm in $\*

do

word=`grep $str $fnm | wc -w`

line=`grep -c $str $fnm `

echo "In File $fnm ,$str is in $line lines and that lines have $word Words"

done

~

**Output:-**

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ sh filename.sh f1 f2

In File f2 ,f1 is in 0 lines and that lines have 0 Words

**ROLLNO-03**

**NAME:BENDRE PRATIKSHA GANESH**

**PROBLEMSHEET-5**

1. Search all lines of file f1 which end with a ;(semicolon) and change with that line having only ";".

🡪Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ cat f1

hii

hello

happy gandhi jayanti

happy Sunday

happy October

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hello;

hii;

hey;girl

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ sed '/;$/c\;' f1

hii

hello

happy gandhi jayanti

happy Sunday

happy October

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Network technology

;

;

hey;girl

2. Display all lines of file f1 in which line contain only a alphabets and first and last character must be

same.

🡪 tmtbca@BCA3:~/tyb3$ grep '^\([a-zA-Z]\).[a-zA-Z]\*\1$' f1

hiih

helloh

3. Replace "System" as "Method" and "Operating System" as "OS" in a file f1.

🡪tmtbca@BCA3:~/tyb5$ sed -e 's/operating system/os/'g -e 's/system/method/g' f1

hello goodmorning

hiii

unix and shell programming

tybca

mishra shivangi

hello world;

i=5;i<5;i++;

unix lab;

happy h

google g

h11h

hii21

hiii2h

hiih

helloh

os

method

unix method

4. Display lines of file data.txt which contain "Head of Director", "In charge Director" or "Department

Director". (Use grep family only)

🡪Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ grep -e 'Head Of Director' -e 'In Charge Director' -e 'Department Director' data.txt

Head Of Director

In Charge Director

Department Director

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ cat data.txt

hello

unix shell programming

Head Of Director

In Charge Director

Department Director

5. Exchange first and last character of file f1 and also add blank lines between all lines.

🡪Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

$ sed '^.\*$/a\' f1 -e'/^\(.\)\(.\*\)\(.\)$/s//\3\2\1/g'

sed: can't read ^.\*$/a\: No such file or directory

iih

oellh

iappy gandhi jayanth

yappy Sundah

rappy Octobeh

gnix shell programminu

sebframework and servicew

tsp.neA

yetwork technologN

;elloh

;iih

ley;girh

6. Display all lines of file f1 except last line. (Do not use 'p' Command or sed utility)

🡪Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix head -n-1 f1

hello goodmorning

hiii

unix and shell programming

tybca

mishra shivangi

hello world;

i=5;i<5;i++;

unix lab;

happy h

google g

h11h

hii21

hiii2h

hiih

helloh

operating system

system

7. To add leading space in each line of file f1.

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix sed 's/^/ /' f1

hello goodmorning

hiii

unix and shell programming

tybca

mishra shivangi

hello world;

i=5;i<5;i++;

unix lab;

happy h

google g

h11h

hii21

hiii2h

hiih

helloh

operating system

system

unix system

8. To remove trailing space from each line of file f1.

🡪Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix sed 's/ \{1,\}//' f1

hellogoodmorning

hiii

unixand shell programming

tybca

mishrashivangi

helloworld;

i=5;i<5;i++;

unixlab;

happyh

googleg

h11h

hii21

hiii2h

hiih

helloh

operatingsystem

system

unixsystem

hee

goodday

9. Replace "kernel" with "kernel Architecture" using repeat pattern of sed utility.

🡪Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix sed 's/kernal/&Arichtecture/g' f2

kernalArichtecture

kernalArichtecture sheel

kernalArichtecture shell

10. Display a line having at least 50 character of file f1.

🡪Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix grep '^.\{50,\} $' f1

satisfaction is the greatest happiness a quality product by gopi colors speak louder than words that's great good morining

11. Display all files of current working directory which contain "While”, “until" or "for" loop.

🡪

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

cat > until

hemlo pratiksha is foodie shivangi

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

cat > for

qwerty uiop

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

cat > while mummy is house wife tybca tybca b

Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix

grep -l -e 'until' -e 'for' -e 'while' \*

12. Display all 7 characters palindrome word of file f1.

🡪Pratiksha@LAPTOP-HCED7BDO MINGW64 ~/unix tr '' '\n' < file1|grep '^\(.\)\(.\)\(.\).\3\2\1$'

repaper

murdrum

mononom