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OS ASSIGNMENT 2

Q1] Explain the networking commands FTP, TFTP and rlogin.

Ans: * FTP

⇒ Description: It is the user interface to the Internet standard File Transfer Protocol. The program allows a user to transfer files to and from a remote network site.

⇒ options: -a : active mode transfer
-p : passive mode transfer
-v : verbose option to show all requests on remote server.
-d : enable debugging.

* TFTP:

⇒ Description: It is a client for the Trivial file Transfer Protocol, which can be used to transfer files to and from remote machines, including some very minimalistic, usually embedded systems.

⇒ options: -4 : Connect with IPv4 only
-6 : Connect with IPv6 only
-R : port:port : Force originating port number to be within given range
-V : Print version number
-v : Verbose mode

* rlogin:

⇒ Description: It is used to start a terminal session on a remote host. It will be replaced by telnet in near future.

⇒ Options: -8 Allow 8-bit input data path

-E It stops any character from being recognised as an escape character. When used with the -8 option, this provides a completely transparent connection.

Q.2]

Ans:

```
#! /usr/bin/awk -f
BEGIN{
#take input constraint
printf "Enter lower end of range: "
getline low <"-"
printf "Enter higher end of range: "
getline high <"-"
print ""
}
#print according to constraint:
$4> low && $5 < high { print }
# regex for chembur
/chembur | Chembur / { print }
#replace science with Science
{gsub (/science/, "Science") }
# sum of marks
$6 = $4 + $5 { print }
```

Q.3]

Ans: #! usr/bin/awk -f

```
BEGIN { count = 0 }
# electronics codes only
{
   if ($5 == "electronics") { print $1 }
}
# range 5000 - 10000
$3 < 10000 && $3 > 5000 { print }
# count electronics
$5 == "electronics" { count += 1 }
# 3rd record only
{
   if (NR == 3) { print }
}
# quantity < 10
$4 < 10 { print }
END {
   print count
}
```

Q.4]

Ans: (a) grep kurla abc.txt

(b) grep -c kurla abc.txt

(c) grep -n kurla abc.txt

Q.5] Write a shell script to print the specified range of lines from a given file

Ans
```
#! /bin/sh
awk 'BEGIN { printf "Lower:", getline low <"-";
             printf "Higher:"; getline high <"-";
             print "" }
NR < high && NR > low { print NR " " $0 }' abc.txt
```

Q.6] Write a shell script to sort the file contents in descending order

Ans
```
#! /bin/sh
sort -r filename.txt > temp.txt && mv temp.txt
 filename.txt
```

Q.7] Write a shell script that displays that login names of all users who have logged in

Ans
```
#! /bin/sh
echo "currently logged in users are:"
 who
```

sed ("stream editor") is a Unix utility that parses and transforms text, using a simple, compact programming language

Q.8] Explain the following commands of sed with examples

(a) To substitute string S1 and S2

Ans sed 's/old-word/new-word/g' file.txt > out.txt

Here s indicates substitute function. The substitute function will look for occurences of string old-word in filename.txt and replace them with string "new-word". The g utility tells sed to replace all occurences on each line. Without g, only the 1st occurence on a line will be replaced. Then the output will be saved in output.txt.

(b) Write an address line to another file

Ans: sed -n '3,$'abc.txt > out.tx

Here -n is the address utility used to address a certain portion of a given file. In the given command, sed will output lines starting from the 3rd line in abc.txt upto the end denoted by $ to out.txt file.

(c) change text in current line with next text.

Ans: sed '3s/old-word/new-word/g' file.txt -

here s indicates substitute function. The substitute function will look for occurrences of string old-word in filename.txt only on line number 3 as mentioned just before s and replace them with string "new-word" since g or global tells sed to replace all occurrences on that line then the output will be saved in output.txt.