**PROBLEM SHEET – SHELL SCRIPT**

1. Write a program which will accept a single argument and indicate whether this argument is a number, lowercase letter or uppercase letter or a special character.
2. Have a “books.dat” file to contain fields like accession-no, name of the book and author. Write a program to enter several records of this type, remove a record from the file, print a list of all books, and print all books given an author.
3. Write a shell script that accepts a string from the terminal. If it’s less than 12 characters, display it with blinking, else display a suitable error message.

echo"Enter string"

read str

length=`echo $str | wc -c`

length=`echo $length - 1 |bc`

if [ $length -lt 12 ]

then

while [ true ]

do

clear

sleep 1

echo $str

sleep 1

done

else

echo “string length greater than 12 characters”

fi

1. Write a program that receives a filename,
   1. Inform whether it exists or not
   2. If it exists, give the details of its access permission, size, last modified
   3. If it is a text file, then find
      1. Number of sentences
      2. Number of words
      3. Number of words having more than 5 characters
      4. Number of words that start with a vowel
      5. Number of articles in the text file
      6. Access permissions
2. Script to display the processes in the system every 30 seconds, but for 3 times.

for r in 1 2 3

do

echo "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"

ps -e

echo "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"

sleep 3

        # clean

done

1. Shell function filsize() which lists the total size of the files given as arguments. Should list all files if no arguments are given.
2. Shell script which gets executed the moment the user logs in. it would display the message “Good Morning /Good Afternoon/Good Evening” depending upon the time the user logs in.

check=`date +%H`

echo $check

if [ $check -ge 06 -a $check -le 12 ]

then

echo "Good morning"

elif [ $check -ge 12 -a $check -le 17 ]

then

echo "Good afternoon"

else

echo "Good evening"

fi

1. A menu driven program which has the following options
   1. Content of /etc/passwd (first 15 lines)
   2. List of users who logged in currently
   3. Find the sum, product of the digits and factorial of a given number
   4. Find the value of one number raised to the power of the other. Two numbers should be supplied as arguments.
   5. Exit
2. Write a shell script that sends a message “THANK YOU” to your screen every 40 seconds, until you log out. It should also entertain a trap signal to abort half-way.
3. Write a script to illustrate the functionality of arrays definition and access.
4. Write a script to illustrate shell functions. Write a shell function and use that in a shell script. Understand the concept of the function being in the same file or in a separate file.
5. Write a script to do entry, validation, reporting for a contacts system (details all related to your regular contacts like mobile, first name, second name, city, address, ids)
6. Write a shell script to achieve the following
   1. Find the files larger than 10kb
   2. In that list, find files which are older than 10 days
   3. Find the total size of all such files
7. Implement terminal locking (similar to the lock command). No time limit need be implemented for the lock duration.  
   clear  
   echo "enter password to lock the terminal"  
   read pass1  
   echo " Re-enter password"  
   read pass2  
   if [ "$pass1" = "$pass2" ]  
   then  
    echo "system is locked"  
    echo "enter password to unlock"  
    trap ‘ ‘ 1 2 3 9 15 18  
    while true  
    do  
    read pass3  
    if [ $pass1 = $pass3 ]  
    then

echo "system unlocked"  
 exit  
 else  
 echo "password mismatch"  
 fi  
 done  
else  
 echo "password mismatch"  
fi