

***Operating systems Lab Work***

***Practical 5***

***Name :Shrey Vyas***

***Batch:F-1***

***Roll Number:22BCE335***

Code:

ch=1

echo "Welcome to the Database Management System"

while [ $ch -ge 1 ] && [ $ch -le 6 ]

do

echo "1.Create a table"

echo "2.Insert into a table"

echo "3.Select from table"

echo "4.Update a table"

echo "5.Delete from table"

echo "6.Sort"

echo "7.Quit"

read -p "Enter your choice" ch

case $ch in

1)

read -p "Enter a tablename to create:" tablename

while [ -f $tablename ]

do

echo "The Table already exists,enter a new name"

read -p "Enter a tablename" tablename

done

read -p "Enter the number of columns:" col

i=1

str=""

while [ $i -le $col ]

do

read -p "Enter the $i column name" name

str="$str$name"

if [ $i -ne $col ]

then

str="$str|"

fi

i=`expr $i + 1`

done

echo $str >> $tablename

echo "The table has been successfully created"

;;

2)

read -p "Enter the table name:" tablename

while [ ! -f $tablename ]

do

echo "The Table does not exist!"

read -p "Do you want to continue?(yes/no):" choice

if [ "$choice" = "no" ]

then

tablename=""

break

else

read -p "Enter the table name:" tablename

fi

done

if [ "$tablename" = "" ]

then

continue

fi

cols=`head -1 $tablename | grep -o "|" | wc -l`

cols=`expr $cols + 1`

read -p "Enter the number of records to be inserted:" n

i=1

while [ $i -le $n ]

do

j=1

str=""

while [ $j -le $cols ]

do

todisplay=`head -1 $tablename | cut -d "|" -f$j -`

read -p "Enter the $i records $todisplay column:" data

str="$str$data"

if [ $j -ne $cols ]

then

str="$str|"

fi

j=`expr $j + 1`

done

echo $str >> $tablename

i=`expr $i + 1`

done

echo "The records have been successfully inserted into $tablename"

;;

3)

read -p "Enter the table name:" tablename

if [ ! -f $tablename ]

then

echo "No such table exists"

continue

fi

echo -e "\nThe Columns of the table are as follows:\n"

todisplay=`head -1 $tablename`

echo -e "$todisplay\n"

echo "1.Find by Field"

echo "2.Find by Column"

echo "3.Find by Keyword"

echo "4.Display the entire table"

echo "5.Display by record number"

read -p "Enter your choice:" c

case $c in

1)

echo -e "\n1,2,3:Displays field 1 and 2 and 3\n"

echo -e "1-3:Display for range 1 to 3\n"

echo -e "1-:Display for 1 till end\n"

read -p "Enter your choice" input

cut -d "|" -f $input $tablename

;;

2)

echo -e "\n1,2,3:Displays column 1 and 2 and 3\n"

echo -e "1-3:Displays from 1 to 3\n"

echo -e "1-:Displays column from 1 to the end\n"

read -p "Enter your choice:" input

cut -c $input $tabelname

;;

3)

read -p "Enter the kwyword to be searched:" input

grep -n -e $input $tablename

;;

4)

cat $tablename

;;

5)

read -p "Enter the starting record number:" start

read -p "Enter the ending record number:" end

x=`expr $end - $start`

x=`expr $x + 1`

head -$end $tablename | tail -$x -

;;

\*)

echo "Wrong choice entered!"

;;

esac

echo -e "\n"

;;

4)

read -p "Enter the table name:" tablename

while [ ! -f $tablename ]

do

echo "Entered the wrong name!"

read -p "Enter a new table name:" tablename

done

echo -e "The table is as follows:\n"

cat $tablename

echo "1.Change table name"

echo "2.Enter a new field"

echo "3.Drop a field"

echo "4.Change field name"

read -p "Enter your choice:" c

case $c in

1)

read -p "Enter the new table name:" newname

mv $tablename $newname

;;

2)

read -p "Enter a new column name:" name

i=1

rows=`wc -l $tablename | cut -c 1 -`

while [ $i -le $rows ]

do

str=`head -$i $tablename | tail -1 -`

if [ $i -eq 1 ]

then

str="$str|$name"

else

read -p "Enter the value of record $i:" input

str="$str|$input"

fi

echo "$str" >> temp\_file

i=`expr $i + 1`

done

rm $tablename

mv temp\_file $tablename

;;

3)

read -p "Enter the field number:" n

i=1

cols=`head -1 $tablename | grep -o "|" - | wc -l`

cols=`expr $cols + 1`

rows=`wc -l $tablename | cut -c 1 -`

while [ $i -le $rows ]

do

record=$(head -$i "$tablename" | tail -1)

if [ $n -eq 1 ]

then

str=$(echo "$record" | cut -d "|" -f 2-)

elif [ $n -eq $cols ]

then

str=$(echo "$record" | cut -d "|" -f -$(expr $n - 1))

else

str=$(echo "$record" | cut -d "|" -f -$(expr $n - 1))

str="$str|$(echo "$record" | cut -d "|" -f $(expr $n + 1)-)"

fi

echo "$str" >> temp\_file

i=`expr $i + 1`

done

rm $tablename

mv temp\_file $tablename

;;

4)

read -p "Enter the field number:" n

read -p "Enter the new field name:" name

cols=`head -1 $tablename | grep -o "|" - | wc -l`

cols=`expr $cols + 1`

if [ $n -eq 1 ]

then

str="$name|$(head -1 $tablename | cut -d "|" -f 2- -)"

elif [ $n -eq $cols ]

then

str="$(head -1 $tablename | cut -d "|" -f -$(expr $n - 1) -)|$name"

else

str="$(head -1 $tablename | cut -d "|" -f -$() -)|$name|"

str="$str$(head -1 $tablename | cut -d "|" -f $(expr $n + 1)- -)"

fi

echo "$str">>temp\_file

rows=`wc -l $tablename | cut -c 1 -`

rows=`expr $rows - 1`

tail -$rows $tablename >> temp\_file

rm $tablename

mv temp\_file $tablename

;;

\*)

echo "You entered the wrong choice!"

;;

esac

;;

5)

read -p "Enter a table name:" tablename

while [ ! -f $tablename ]

do

echo "No such table anme exists"

read -p "Enter a new table name" tablename

done

echo "The table is as follows:"

cat $tablename

echo -e "\n1.Delete a record"

echo -e "\n2.Delete by keyword"

echo -e "\n3.Delete the entire table"

read -p "Enter your choice:" c

case $c in

1)

read -p "Enter the record number:" n

str=`head -$n $tablename | tail -1 -`

grep -v -e "$str" $tablename > temp\_file

rm $tablename

mv temp\_file $tablename

echo "The record has been successfully removed"

;;

2)

read -p "Enter the keyword:" input

grep -v -e $input $tablename > temp\_file

rm $tablename

mv temp\_file $tablename

echo "The record has been removed successfully"

;;

3)

rm $tablename

echo "The table has been removed successfully"

;;

\*)

;;

esac

;;

6)

read -p "Enter the table name:" tablename

while [ ! -f $tablename ]

do

echo "You have entered a wrong table name!"

read -p "Enter a new table name:" tablename

done

echo "The table is as follows:"

cat $tablename

echo "<field\_number>.<column\_number> is the format"

echo "5.5 :- Sorts the field 5 column 5 onwards"

echo "5.5-5.5 :- Sorts the field 5 column 5 only"

read -p "enter your choice:" input

read -p "Do you like to reverse sort it?(yes/no):" input2

head -1 $tablename >> temp\_file

rows=`wc -l $tablename | cut -c 1 -`

if [ $input2 = "yes" ]

then

tail -$(expr $rows - 1) $tablename | sort -t "|" -k $input -r - >> temp\_file

else

tail -$(expr $rows - 1) $tablename | sort -t "|" -k $input - >> temp\_file

fi

rm $tablename

mv temp\_file $tablename

echo "The table has been sorted accordingly"

;;

7)

echo "Thanks for using Database Management System"

;;

\*)

echo "You have entered a wrong choice"

ch=1

;;

esac

done

Output:













