Faculty of Information Technology

University of Moratuwa

Batch 21 – Level 2 Semester 1

Operating System Lab 05

TITLE: Shell Scripting- Database.

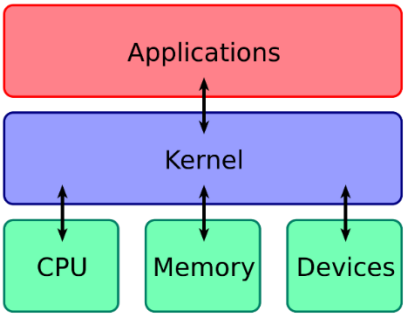
OBJECTIVE: To study database handling using shell script.

Theory:
Essential commands used:

What is Kernal?

When we are talking about operating systems we are talking about application software and system software.

Application software is interacting with our system software and system software is interacting with the hardware and signals.



Kernal manages operations of computer and hardware. It manage memory allocation and CPU time. This is a main component which act as a bridge between applications and data processing.

sort:

As the name suggests the sort command can be used for sorting the contents of a file. Apart from sorting files, sort has another trick up its sleeve. It can merge multiple sorted files and store the result in the specified output file. While sorting the sort command bases its comparisons on the first character in each line in the file. If the first character of two lines is same then the second character in each line is compared and so on. That's quite logical .To put it in more technical terms, the sorting is done according to the ASCII collating sequence. That is,it sorts the spaces and the tabs first, then the punctuation marks followed by numbers,

uppercase letters and lowercase letters in that order.
The simplest form of sort command would be:

```
$ sort myfile
```

This would sort the contents of *myfile* and display the sorted output on the screen.

Sometimes we may want to combine the contents of a file with the input from the keyboard and then carry out the sorting. This can be achieved by saying:

```
$ sort – file1
```

Where '-' stands for the standard input i.e. the keyboard.

We can even sort only the input from standard input by just saying,

```
$ sort
```

Since no file has been specified here it is assumed that the input is to come from the standard input device. That is only part of the capability of sort. Sort is used most fruitfully for files which are essentially databases, or which have its information organized in fields. Fields are a group of characters separated by a predetermined delimiter, or a new line. In most cases, the delimiter is a space or a tab, separating different chunks of information.

Task 01 : Enter the following commands and check its output.

Eg : `$ sort` **`Enter the command here`** `my file`

Options	**Meaning**
`-b`	Ignores leading spaces and tabs.
`-c`	Checks if files are already sorted. If they are, sort does nothing.
`-d`	Sorts in dictionary order (ignores punctuation).
`-f`	Ignores case
`-m`	Merges files that have already been sorted.
`-n`	Sorts in numeric order.
`-ofile`	Stores output in file.
`-r`	Reverses sort
`-tc`	Separates fields with character (default is tab).

`$ sort -n my file` – Here we use dash n to sort numerically.

`$ sort -nr myfile` – If we need to reverse the content numerically, we can use dash nr
.

`$ sort-o`**`newfilename`** `myfile` – When we need to create another file with the same content but with a different name we can use this command.

```
$ sort -t "|" -k 2 my file
```

First Line	Second Line	Third Line	Fourth Line
d	o	g	
l	i	o	n

Task 01 (Search):

When we are talking about shell scripting there can be different kind of shells.

1. Bourne Shell
2. C Shell

Bourne Shell	C Shell
Bourne Shell	Tenex Shell
Bourne-again shell	Z shell
Korn shell	C Shell
Posix shell	