LAB 11

Course Code: CSC 2209 Course Title: Operating Systems

Dept. of Computer Science
Faculty of Science and Technology

Lecturer No:	**11**	**Week No:**	**11**	**Semester:**	
Lecturer:	*Name & email*				

Lecture Outline

1. Array
2. File Parsing from Shell Script
3. File Parsing With Separator
4. Checking file existence

Array

- Bash Supports simple single dimension array
- In bash you can add value in any array position
- Gaps in indices are okay in bash
- You can treat any variable as an array but the value will be assigned into the 0th index
- Syntax

```
os=(‘ubuntu’, ‘windows’, ‘linux’)
echo “${os[0]}”
echo “${os[1]}”
echo “${os[2]}”
```

Array (cont'd)

- Get the length of the array

  echo "${#os[@]}"

- Removing value from array

  unset os[2]

- Taking array as an input

  read –a variablename [separate input with space and then press enter]

File Parsing from Shell Script

- File can be viewed with **cat** command easily.
- We can also parse file from shell script.
- For parsing file; we need input redirection of file.
- Input redirection means the read command will read from file rather taking input from terminal.
- Input redirection is done by < operator.
- File is read by while loop.

Syntax

```
!# /bin/bash
while read filecontent
do
        echo $filecontent
done < filename
```

This will read the whole content of the file and give output in terminal.

File Parsing With Separator

Suppose we want to parse the file and its contents

For example; the below is a content of a file

Name-ID

Tanvir Ahmed-123466

Sabbir Ahmed-456792

Masum Ahmed-454679

Here you can see the name and id are separated by -.

This is a separator. In many files Linux uses separator to separate file contents.

Example

- Run cat /etc/passwd
  - This file contains the user information like username, password, user home directory etc.

See the below content. This contains username and user's home directory.

uuidd:/usr/sbin/nologin

dnsmasq:/usr/sbin/nologin

landscape:/usr/sbin/nologin

sshd:/usr/sbin/nologin

- Here the contents are separated with : (colon). So, to read the attribute like user and user's home directory independently we have to use File Separator.
- To do so we need to use **IFS = Internal Field Separator**. It basically separates word with a separator.

Syntax

```
while IFS=':' read username userhomedirectory;  do
        echo $username $userhomedirectory
done < filename
```

```
uuidd /usr/sbin/nologin
dnsmasq /usr/sbin/nologin
landscape /usr/sbin/nologin
sshd /usr/sbin/nologin
```

Output of the above code.

For reading n attribute we need to use n variables. As we are reading 2 attributes we are using 2 variables.

Checking file existence

```
filename=info.txt
if [ -f $filename ]
then
        #do operation
else
        echo “File not exists”
```

Here the –f flag checks for the existence of the file.

Books

- Unix Shell Programming
  - Written by Yashavant P. Kanetkar