OPERATING SYSTEM LABORATORY MANUAL

UNIVERSITY OF THE PUNJAB

FACULTY OF COMPUTING & INFORMATION TECHNOLOGY, LAHORE

DEPARTMENT OF COMPUTER SCIENCE

Course:	**Operating System Lab**	**Date:**
Course Code:	**CC-217-3L**	**Max Marks: 40**
Faculty/Instructor's Name & Email:	**Dr. Ahmad Hassan Butt (ahmad.hassan@pucit.edu.pk)**	

LAB MANUAL # 6

(SPRING 2023)

Name:_____ Enroll No: _____

Objective(s) :

To study about the Linux Shell Programming. To write a shell program to compare/concatenate the two strings. To find greatest of three numbers and to perform the arithmetic operations using case.

Lab Tasks :

Task 1 : Write the output of the following array program.

Task 2: Write the output for concatenation of two strings.

Task 3 : Write the output of program for maximum of three numbers.

Task 4 : Write a program for implementing arithmetic operations using case.

Lab Grading Sheet :

Task	Max Marks	Obtained Marks	Comments(*if any*)
1.	10		
2.	10		
3.	10		
4.	10		
Total	**40**		**Signature**

Note : Attempt all tasks and get them checked by your Instructor

Lab 06 Shell Programming - II

Objective(s):

- To study about the Linux Shell Programming.
- To write a shell program to compare/concatenate the two strings.
- To find greatest of three numbers and to perform the arithmetic operations using case.

Tool(s) used:

Ubuntu, VIM Editor

Arrays

Shell variable is capable enough to hold a single value. Shell supports a different type of variable called an array variable that can hold multiple values at the same time. Arrays provide a method of grouping a set of variables. Instead of creating a new name for each variable that is required, you can use a single array variable that stores all the other variables.

Variables are assigned as,

Name1 = "Zara"
Name2 = "Sarah"
Name3 = "Ali"
Name4 = "Ayesha"

We can use single array to store all the above mentioned names. This could be achieved by array

array_name[index]= value

Here *array_name* is the name of the array, index is the index of the item in the array that you want to set, and value is the value you want to set for that item.

Task 1 Write the output of the following array program.

```
#!/bin/bash
arr_name=(“SARAH” “ALI” “AHMED”)
echo “First Index : ” ${arr_name[0]}
echo “Second Index : ” ${arr_name[1]}
echo “Third Index : ” ${arr_name[2]}
```

OUTPUT

Task 2 Write the output for concatenation of two strings.

Algorithm

Step 1 Enter into the vi editor and go to the insert mode for entering the code

Step 2 Read the first string.

Step 3 Read the second string

Step 4 Concatenate the two strings

Step 5 Enter into the escape mode for the execution of the result and verify the output.

Program

```
echo “enter the first
string” read str1
echo “enter the second
string” read str2
echo “the concatenated string is” $str1$str2
```

OUTPUT

Task 2.1 Write the output for the comparison of two strings.

Algorithm

Step 1 Enter into the vi editor and go to the insert mode for entering the code

Step 2 Read the first string.

Step 3 Read the second string

Step 4 Compare the two strings using the if loop

Step 5 If the condition satisfies then print that two strings are equal else print two strings are not equal.

Step 6 Enter into the escape mode for the execution of the result and verify the output

Program

```
echo “enter the first string” read str1
echo “enter the second string” read str2
if [ $str1 = $str2 ] then
echo “strings are equal” else
echo “strings are unequal” fi
```

OUTPUT

Task 3 Write the output of program for maximum of three numbers.

Algorithm

Step 1 Declare the three variables.

Step 2 Check if A is greater than B and C.

Step 3 If so print A is greater.

Step 4 Else check if B is greater than C.

Step 5 If so print B is greater.

Step 6 Else print C is greater.

Program

```
echo "enter A" read a
echo "enter B" read b
echo "enter C" read c
if [ $a -gt $b -a $a -gt $c ] then
echo "A is greater"
elif [ $b -gt $a -a $b -gt $c ] then
echo "B is greater" else
echo "C is greater" fi
```

Sample I/P

Sample O/P

Task 4 Write a program for implementing arithmetic operations using case.

Algorithm

Step 1 Read the input variables and assign the value

Step 2 Print the various arithmetic operations which we are going to perform

Step 3 Using the case operator assign the various functions for the arithmetic operators.

Step 4 Check the values for all the corresponding operations.

Step 5 Print the result and stop the execution.

OUTPUT