

# **RIPHAH INTERNATIONAL** **UNIVERSITY, ISLAMABAD**



**Lab#10**

**Bachelors of Computer Science – 5<sup>th</sup> Semester**

**Subject: Operating System**

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## Lab Tasks:

### Exercise 1:

Put this code in a file and executes with two arguments.

```
echo "The following is the output of $0 script:"  
echo "The total number of command line argument:$#"   
echo "The first parameter:$1"  
echo "The second parameter:$2"
```

```
[root@localhost ~]# vi script.sh
```

Press i to insert

```
#!/bin/bash  
  
echo "The following is the output of $0 script:"  
echo "The total number of command line argument:$#"   
echo "The first parameter is:$1"  
echo "The second parameter is:$2"
```

Press esc

Press Shift + : + wq

```
"script.sh" [New] 6L, 181B written  
[root@localhost ~]# chmod 777 script.sh  
[root@localhost ~]# ./script.sh Hello Munaza  
The following is the output of ./script.sh script:  
The total number of command line argument:2  
The first parameter is:Hello  
The second parameter is:Munaza
```

### Exercise 2:

Write a program to take value from user between 1 to 5.and display result like this:

1. ...you pressed 1
  2. ...you pressed 2
- Above 5....invalid

```
[root@localhost ~]# vi script.sh
```

Press i to insert

```
#!/bin/bash

echo "Enter a number between 1 and 5:"
read user_input

case $user_input in
1) echo "...You pressed 1" ;;
2) echo "...You pressed 2" ;;
3) echo "...You pressed 3" ;;
4) echo "...You pressed 4" ;;
5) echo "...You pressed 5" ;;
*) echo "Above 5...Invalid" ;;
esac
```

Press esc

Press Shift + : + wq

```
~
"script.sh" [New] 13L, 276B written
[root@localhost ~]# chmod 777 script.sh
[root@localhost ~]# ./script.sh
Enter a number between 1 and 5:
3
...You pressed 3
[root@localhost ~]# ./script.sh
Enter a number between 1 and 5:
7
Above 5...Invalid
```

### Exercise 3:

There are three semesters in an academic year i.e. Fall (Aug-Jan), Spring (Feb-May) and Summer (Jun-July). Write a script which read current month from the user and determine running semester. For example if user enters current month either 1 or January or Jan the script should display "Fall Semester".

```
[root@localhost ~]# vi semester.sh
```

```
#!/bin/bash

echo "Enter the correct month (1-12 or January-December or Jan-Dec): "
read month_input

month_input=$(echo "$month_input" | tr '[:upper:]' '[:lower:]')

case $month_input in
    8|9|10|11|12|1|august|aug|september|sep|october|oct|november|nov|december|dec|january|jan)
        echo "Fall Semester" ;;
    2|3|4|5|february|feb|march|mar|april|apr|may)
        echo "Spring Semester" ;;
    6|7|june|jun|july|jul)
        echo "Summer Semester" ;;
    *) echo "Invalid month entered...." ;;
esac
```

Press esc

Press Shift + : + wq

```
"semester.sh" 23L, 495B written
[root@localhost ~]# chmod 777 semester.sh
[root@localhost ~]# ./semester.sh
Enter the correct month (1-12 or January-December or Jan-Dec):
1
Fall Semester
[root@localhost ~]# ./semester.sh
Enter the correct month (1-12 or January-December or Jan-Dec):
december
Fall Semester
```

#### Exercise 4:

Write a program in shell scripting and attached screenshots with explanations

1. Perform array and string code in shell scripting

##### Array:

```
student@student-virtual-machine:~$ pico practice.sh
```

```

GNU nano 6.2                                practice.sh *
#!/bin/bash

myArray=(1 2 Munaza "Linux OS" )
echo "${myArray[0]}"
echo "${myArray[1]}"
echo "${myArray[2]}"
echo "${myArray[3]}"

echo "Get all Values: ${myArray[*]}"
echo "Length of Array ${#myArray[*]}"
echo "Get elements from index 1 to 2: ${myArray[*]:1:2} "
echo "Get elements from index 1 till last: ${myArray[*]:1} "

myArray+=(4 5 6 7 8 9 10)
echo "Updated Array is: ${myArray[*]} "

```

```

student@student-virtual-machine:~$ pico practice.sh
student@student-virtual-machine:~$ chmod 777 practice.sh
student@student-virtual-machine:~$ ./practice.sh
1
2
Munaza
Linux OS
Get all Values: 1 2 Munaza Linux OS
Length of Array 4
Get elements from index 1 to 2: 2 Munaza
Get elements from index 1 till last: 2 Munaza Linux OS
Updated Array is: 1 2 Munaza Linux OS 4 5 6 7 8 9 10

```

String:

```

New Array is Hello Its me Munaza
student@student-virtual-machine:~$ pico string.sh

```

```

GNU nano 6.2                                string.sh *
#!/bin/bash

myArray="Hello Its me Munaza"
myArrayLength=${#myArray}
echo "Length of the given array is: $myArrayLength "
echo "Upper Case is: ${myArray^^} "
echo "Lower Case is: ${myArray,,} "
newArray=${myArray/Munaza/Malik}
echo "New Array is $newArray: "

student@student-virtual-machine:~$ ./string.sh
Length of the given array is: 19
Upper Case is: HELLO ITS ME MUNAZA
Lower Case is: hello its me munaza
New Array is Hello Its me Malik

```

2. Perform If Else code in Shell Scripting

```

student@student-virtual-machine:~$ pico elseif.sh

```



```

GNU nano 6.2                                     elseif.sh
#!/bin/bash

read -p "Enter your marks: " marks

if [[ $marks -ge 90 ]]
then
echo "Congrats A+ Grade"
elif [[ $marks -ge 80 ]]
then
echo "Congrats A Grade"
elif [[ $marks -ge 70 ]]
then
echo "You got B Grade"
else
echo "You are fail"
fi

```

```

student@student-virtual-machine:~$ chmod 777 elseif.sh
student@student-virtual-machine:~$ ./elseif.sh
Enter your marks: 92
Congrats A+ Grade

```

3. Perform Case related code in shell scripting

```

student@student-virtual-machine:~$ pico case.sh

```

```

GNU nano 6.2                                     case.sh
#!/bin/bash

case:
echo "Choose an option: "
echo "a=to see the current date"
echo "b=list all the files in the current dir"
echo "c=to check the current location"
read choice
case $choice in
a)date;;
b)ls;;
c)pwd;;
*)echo "Not a valid input"
esac

```

```

student@student-virtual-machine:~$ chmod 777 case.sh
student@student-virtual-machine:~$ ./case.sh

```

```
Choose an option:
a=to see the current date
b=list all the files in the current dir
c=to check the current location
a
09:45:26 و PKT 2024 اکتوبر 22 ت
```

```
Choose an option:
a=to see the current date
b=list all the files in the current dir
c=to check the current location
b
abc.c      Desktop  elseif.sh lab.cpp  Pictures  snap
books      Documents ifelse.sh munaza.c practice.sh Templates
case.sh    Downloads lab       Music   Public   Videos
```

```
Choose an option:
a=to see the current date
b=list all the files in the current dir
c=to check the current location
c
/home/student
```

```
Choose an option:
a=to see the current date
b=list all the files in the current dir
c=to check the current location
4
Not a valid input
```