

LAB03 WORK UPDATE

SHELL SCRIPT

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LOGICAL && AND || OPERATORS:

```
[s2019103562@centos8-linux Sat Mar 06 09:32 AM ~]$ ./logicop.sh
Enter a number
13
13 is greater than 10 and less than 20
Enter the first number
20
Enter the second number
23
Numbers are not less than 10
[s2019103562@centos8-linux Sat Mar 06 09:33 AM ~]$ cat logicop.sh
#!/bin/sh
echo "Enter a number"
read num
#Logical and
if [ $num -gt 10 -a $num -lt 20 ]
then echo "$num is greater than 10 and less than 20"
else
    echo "$num is not greater than 10 and less than 20"
fi
#Logical Or
echo "Enter the first number"
read n1
echo "Enter the second number"
read n2
if [ $n1 -lt 10 -o $n2 -lt 10 ]
then echo "A number is less than 10"
else
    echo "Numbers are not less than 10"
fi
```

TEST:

```
[s2019103562@centos8-linux Sat Mar 06 09:33 AM ~]$ test 1 -lt 2 && echo "1 is less than 2"
1 is less than 2
[s2019103562@centos8-linux Sat Mar 06 09:36 AM ~]$ test 5 -ge 3 && echo "5 is greater than or equal to 3" || echo "5 is not greater than or equal to 3"
5 is greater than or equal to 3
[s2019103562@centos8-linux Sat Mar 06 09:37 AM ~]$ test -f logicop.sh && echo "File found" || echo "File not found"
File found
[s2019103562@centos8-linux Sat Mar 06 09:38 AM ~]$ test -f abc.sh && echo "File found" || echo "File not found"
File not found
[s2019103562@centos8-linux Sat Mar 06 09:38 AM ~]$
```

BREAK:

```
[s2019103562@centos8-linux Sat Mar 06 09:44 AM ~]$ vim break.sh
[s2019103562@centos8-linux Sat Mar 06 09:45 AM ~]$ ./break.sh
0
1
2
3
4
5
*****
6
7
8
9
[s2019103562@centos8-linux Sat Mar 06 09:45 AM ~]$ cat break.sh
#!/bin/sh
a=0
while [ $a -lt 10 ]
do
    echo $a
    if [ $a -eq 5 ]
    then break
    fi
    a=`expr $a + 1`
done
echo "*****"
#break out of both outer as well as inner loop
for var1 in 1 2 3 4 5
do
    for var2 in 6 7 8 9 10
    do
        echo $var2
        if [ $var1 -eq 1 -a $var2 -eq 9 ]
        then
            break 2
        fi
    done
done
done
[s2019103562@centos8-linux Sat Mar 06 09:45 AM ~]$
```

CONTINUE:

```
[s2019103562@centos8-linux Sat Mar 06 09:49 AM ~]$ vim continue.sh
[s2019103562@centos8-linux Sat Mar 06 09:50 AM ~]$ ./continue.sh
1 is an odd number
2 is an even number
3 is an odd number
4 is an even number
5 is an odd number
6 is an even number
7 is an odd number
8 is an even number
9 is an odd number
10 is an even number
*****
[s2019103562@centos8-linux Sat Mar 06 09:50 AM ~]$ cat continue.sh
#!/bin/sh
NUMS="1 2 3 4 5 6 7 8 9 10"
for N in $NUMS
do
    Q=`expr $N % 2`
    if [ $Q -eq 0 ]
    then
        echo "$N is an even number"
        continue
    fi
    echo "$N is an odd number"
done
echo "*****"
[s2019103562@centos8-linux Sat Mar 06 09:50 AM ~]$
```

ARRAYS:

```
[s2019103562@centos8-linux Sat Mar 06 10:07 AM ~]$ ./array.sh
Elements of the array are 1 2 3 4 5 6 7
No of elements in an array is:7
Accessing the elements of an array using for loop
1
2
3
4
5
6
7
Elements from index 2 to 4
3 4 5 6
Count of Elements in the array
7
Elements from index 5
6 7
Searching and replacing the element in the array
1 2 3 4 5 6 8
Deleting the element at index 6
1 2 3 4 5 6
The contents of the array are:
Priya
Dharshini
Jayashri
Prem
Yuvashri
Ramya
Count of letters of the word at index 0
5
Count of letters of the word at index 1
9
Searching and replacing in an array
Priya Dharshini Jayashri Preethi Yuvashri Ramya
Deleting the element at index 1
Priya Jayashri Prem Yuvashri Ramya
[s2019103562@centos8-linux Sat Mar 06 10:07 AM ~]$
```

```
[s2019103562@centos8-linux Sat Mar 06 11:10 AM ~]$ cat array.sh
#!/bin/sh
#compound assignment
arr=(1 2 3 4 5 6 7)
echo "Elements of the array are ${arr[@]}"
echo "No of elements in an array is:${#arr[@]}"
echo "Accessing the elements of an array using for loop"
for i in ${arr[@]}
do
    echo $i
done
echo "Elements from index 2 to 4"
echo ${arr[@]:2:4}
echo "Count of Elements in the array"
echo ${#arr[@]}
echo "Elements from index 5"
echo ${arr[@]:5}
echo "Searching and replacing the element in the array"
echo ${arr[@]//7/8}
echo "Deleting the element at index 6"
unset arr[6]
echo ${arr[@]}
names=( [0]="Priya" [1]="Dharshini" [2]="Jayashri" [3]="Prem" [4]="Yuvashri" [5]="Ramya")
echo "The contents of the array are:"
for i in "${names[@]}"
do
    echo $i
done
echo "Count of letters of the word at index 0"
echo ${#names[0]}
echo "Count of letters of the word at index 1"
echo ${#names[1]}
echo "Searching and replacing in an array"
echo ${names[@]//Prem/Preethi}
unset names[1]
echo "Deleting the element at index 1"
echo ${names[*]}
[s2019103562@centos8-linux Sat Mar 06 11:10 AM ~]$
```

FUNCTIONS:

```
++~  
[s2019103562@centos8-linux Sat Mar 06 11:05 AM ~]$ ./function.sh  
Hello  
Function call without parameters  
Hello Priya  
Function call with parameter  
Function one  
Function two nested inside function one  
Hello ALL  
Returned value is 100  
Enter a number  
5  
91  
93  
94  
98  
97  
Average of 5 numbers is 94  
Enter n  
9  
Square of 0 is 0  
Square of 1 is 1  
Square of 2 is 4  
Square of 3 is 9  
Square of 4 is 16  
Square of 5 is 25  
Square of 6 is 36  
Square of 7 is 49  
Square of 8 is 64  
Factorial of 5 is  
120  
[s2019103562@centos8-linux Sat Mar 06 11:06 AM ~]$
```

```
[s2019103562@centos8-linux Sat Mar 06 11:06 AM ~]$ cat function.sh
#!/bin/sh
#function without argument
Hello(){
    echo "Hello"
    echo "Function call without parameters"
}
Hello
#function with argument
Hello2(){
    echo "Hello $1"
    echo "Function call with parameter"
}
Hello2 Priya
#nested functions
one(){
    echo "Function one"
    two
}
two(){
    echo "Function two nested inside function one"
}
one
#functions with return
value(){
    echo "Hello ALL"
    return 100
}
value
ret=$?
echo "Returned value is $ret"
find_avg(){
    a=0
    sum=0
    echo "Enter a number"
    read n
```

```

while [ $a -lt $n ]
do
    read arr[$a]
    sum=`expr $sum + ${arr[$a]}`
    a=`expr $a + 1`
done
avg=`expr $sum / ${#arr[@]}`
return $avg
}
find_avg
res=$?
echo "Average of $n numbers is $res"
square(){
    echo "Enter n"
    read number
    i=0
    while [ $i -lt $number ]
    do
        rest=`expr $i \* $i`
        echo "Square of $i is $rest"
        i=`expr $i + 1`
    done
}
square
echo "Factorial of 5 is"
fact(){
    if [ $1 -gt 1 ]
    then
        i=`expr $1 - 1`
        j=`fact $i`
        k=`expr $1 \* $j`
        echo $k
    else
        echo 1
    fi
}
fact 5
[s2019103562@centos8-linux Sat Mar 06 11:06 AM ~]$ 

```

```

[s2019103562@centos8-linux Sat Mar 06 01:24 PM ~]$ ./vow.sh
Enter n
5
A
A is a vowel
C
C is a consonant
E
E is a vowel
I
I is a vowel
B
B is a consonant
[s2019103562@centos8-linux Sat Mar 06 01:24 PM ~]$ vim vow.sh
[s2019103562@centos8-linux Sat Mar 06 01:24 PM ~]$ cat vow.sh
#!/bin/sh
vowel(){
echo "Enter n"
read n
a=0
while [ $a -lt $n ]
do
    read arr[$a]
    case "${arr[$a]}" in
        "A") echo "${arr[$a]} is a vowel";;
        "E") echo "${arr[$a]} is a vowel";;
        "I") echo "${arr[$a]} is a vowel";;
        "O") echo "${arr[$a]} is a vowel";;
        "U") echo "${arr[$a]} is a vowel";;
        *)
            echo "${arr[$a]} is a consonant";;
    esac
    a=`expr $a + 1`
done
}
vowel
[s2019103562@centos8-linux Sat Mar 06 01:25 PM ~]$

```

READING FILE CONTENT OF A FILE:

```

[s2019103562@centos8-linux Sat Mar 06 11:22 AM ~]$ cat readtxt.sh
#!/bin/sh
filename="logicop.sh"
n=1;
while read line
do
    echo "Line number $n: $line"
    n=$((n+1))
done<$filename
[s2019103562@centos8-linux Sat Mar 06 11:24 AM ~]$

```

```
[s2019103562@centos8-linux Sat Mar 06 11:20 AM ~]$ vim readtxt.sh
[s2019103562@centos8-linux Sat Mar 06 11:22 AM ~]$ chmod +x readtxt.sh
[s2019103562@centos8-linux Sat Mar 06 11:22 AM ~]$ ./readtxt.sh
Line number 1: #!/bin/sh
Line number 2: echo "Enter a number"
Line number 3: read num
Line number 4: #Logical and
Line number 5: if [ $num -gt 10 -a $num -lt 20 ]
Line number 6: then echo "$num is greater than 10 and less than 20"
Line number 7: else
Line number 8: echo "$num is not greater than 10 and less than 20"
Line number 9: fi
Line number 10: #Logical Or
Line number 11: echo "Enter the first number"
Line number 12: read n1
Line number 13: echo "Enter the second number"
Line number 14: read n2
Line number 15: if [ $n1 -lt 10 -o $n2 -lt 10 ]
Line number 16: then echo "A number is less than 10"
Line number 17: else
Line number 18: echo "Numbers are not less than 10"
Line number 19: fi
Line number 20:
Line number 21:
Line number 22:
Line number 23:
[s2019103562@centos8-linux Sat Mar 06 11:22 AM ~]$ █
```

```
[s2019103562@centos8-linux Sat Mar 06 01:34 PM ~]$ while read line;do echo $line;done < logicop.sh
#!/bin/sh
echo "Enter a number"
read num
#Logical and
if [ $num -gt 10 -a $num -lt 20 ]
then echo "$num is greater than 10 and less than 20"
else
echo "$num is not greater than 10 and less than 20"
fi
#Logical Or
echo "Enter the first number"
read n1
echo "Enter the second number"
read n2
if [ $n1 -lt 10 -o $n2 -lt 10 ]
then echo "A number is less than 10"
else
echo "Numbers are not less than 10"
fi

if [ ( $n1 -gt 5 -a $n2 -lt 20 ) -o ( $n1 -gt 100 -a $n2 -lt 200 ) ]
then
echo "Yes"
else
echo "No"
fi
```

```
[s2019103562@centos8-linux Sat Mar 06 01:52 PM ~]$ █
```

CREATING A FILE:

```
[s2019103562@centos8-linux Sat Mar 06 01:03 PM ~]$ ./writetxt.sh
Creating a new file
Displaying the contents of the file  filen.txt
First Word First Line
Second Word Second Line
[s2019103562@centos8-linux Sat Mar 06 01:04 PM ~]$ █
```

```
[s2019103562@centos8-linux Sat Mar 06 11:28 AM ~]$ cat writetxt.sh
#!/bin/sh
echo "Creating a new file"
cat<<EOF >/home/s2019103562/filen.txt
First Word First Line
Second Word Second Line
EOF
echo "Displaying the contents of the file  filen.txt"
cat filen.txt
[s2019103562@centos8-linux Sat Mar 06 11:28 AM ~]$
```

ACCESS:

FILE TEST OPERATORS:

```
[s2019103562@centos8-linux Sat Mar 06 01:57 PM ~]$ vim file.sh
[s2019103562@centos8-linux Sat Mar 06 02:02 PM ~]$ ./file.sh
Enter filename
logicop.sh
The file has read access
The file has write access
The file has execute access
The file size is not zero
The file is a ordinary file
This is not a directory
File exists

[s2019103562@centos8-linux Sat Mar 06 02:02 PM ~]$ cat file.sh
#!/bin/sh
echo "Enter filename"
read file
if [ -r $file ]
then
    echo "The file has read access"
else
    echo "The file has no read access"
fi
    if [ -w $file ]
    then echo "The file has write access"
    else
        echo "The file has no write access"
    fi
    if [ -x $file ]
    then echo "The file has execute access"
    else
        echo "The file has no execute access"
    fi
    if [ -s $file ]
    then
        echo "The file size is not zero"
    else echo "Zero file size"
    fi
    if [ -f $file ]
    then
        echo "The file is a ordinary file"
    else
        echo "Special file"
    fi
fi
```

```
if [ -d $file ]
then echo "The file is a directory"
else
    echo "This is not a directory"
fi
if [ -e $file ]
then echo "File exists"
else
    echo "The file does not exists"
fi
```

[s2019103562@centos8-linux Sat Mar 06 02:02 PM ~]\$
