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OS-LAB-ASSIGNMENT-03

(1) Shell script Program to accept a character and check whether it is an

Lower case alphabet

Upper case alphabet

A digit

Special symbol

Vowel

Using case control structure

```
#question 1:

echo -e "Enter character: \c"
read c
case "$c" in

"a"|"e"|"i"|"o"|"u") echo "A LOWERCASE VOWEL"

;;

"A"|"E"|"I"|"o"|"U") echo "A UPPERCASE VOWEL"

;;

[[:lower:]]) case "$c" in

*)echo "LOWERCASE CONSONANT"

;;

esac

;;

[[:upper:]]) case "$c" in

*) echo "UPPERCASE CONSONANT"

;;

esac

;;

[[:digit:]]) echo "NUMERIC DIGIT"

;;

[[:punct:]]) echo "SPECIAL CHARACTER"

;;

*) echo "OTHER CHARACTER"

;;
```

```
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q1.sh
Enter character: A
A UPPERCASE VOWEL
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q1.sh
Enter character: a
A LOWERCASE VOWEL
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q1.sh
Enter character: C
UPPERCASE CONSONANT
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q1.sh
Enter character: c
LOWERCASE CONSONANT
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q1.sh
Enter character: 1
NUMERIC DIGIT
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q1.sh
Enter character: @
SPECIAL CHARACTER
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./
Enter character: @
SPECIAL CHARACTER
```

(2) Using case esac structure

Find the number of users logged into the system

Print the calendar for current year

Print the date

```
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q2.sh
1 : NUMBER OF USERS
2 : CALENDAR
3 : DATE
q
INCORRECT INPUT!
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q2.sh
1 : NUMBER OF USERS
2 : CALENDAR
3 : DATE
1
# users=1
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q2.sh
1 : NUMBER OF USERS
2 : CALENDAR
3 : DATE
1
# users=1
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q2.sh
1 : NUMBER OF USERS
2 : CALENDAR
3 : DATE
2
August 2021
Su Mo Tu We Th Fr Sa
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30 31
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q2.sh
1 : NUMBER OF USERS
2 : CALENDAR
3 : DATE
3
Tuesday 17 August 2021 02:50:58 PM IST
```

(3) Shell Script Program to check whether given file is a directory or not.

```
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ls
c1.png    o1.png    q11.sh    q14.sh    q1.sh    q4.sh    q7.sh
c2.png    o2.png    q12.sh    q15.sh    q2.sh    q5.sh    q8.sh
file1.txt    q10.sh    q13.sh    q16.sh    q3.sh    q6.sh    q9.sh
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q3.sh
SEARCH FILE BY NAME : file1.txt
FILE EXISTS
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q3.sh
SEARCH FILE BY NAME : abcd.png
FILE DOES NOT EXISTS
```

(4) Shell Script Program to Count number of files in a Directory.

```
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ls
c1.png c4.png o2.png q11.sh q14.sh q1.sh q4.sh q7.sh
c2.png file1.txt o3.png q12.sh q15.sh q2.sh q5.sh q8.sh
c3.png o1.png q10.sh q13.sh q16.sh q3.sh q6.sh q9.sh
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q4.sh
NUMBER OF FILES IS : 25
NUMBER OF DIRECTORIES IS : 1
```

(5) Shell Script Program to copy contents of one file to another.

```
#question 5

echo -e "ENTER ORIGINAL FILENAME : \c"
read original
echo -e "ENTER NEW FILENAME : \c"
read new
echo -e "\n\ncontent before copying : "
echo -e "\ncontent of original file :"
cat \( \frac{1}{2} \) = \( \frac{1} \) = \( \frac{1}{2} \) = \( \frac{1}{2} \) = \( \frac{1}{2} \)
```

```
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ls
cl.png c4.png o2.png oldfile.txt q12.sh q15.sh q2.sh q5.sh q8.sh
c2.png filel.txt o3.png q10.sh q13.sh q16.sh q3.sh q6.sh q9.sh
c2.png o1.png o4.png q11.sh q14.sh q1.sh q4.sh q7.sh
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ cat oldfile.txt
hello there!
my name is brijesh rohit
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q5.sh
ENTER ORIGINAL FILENAME : oldfile.txt
ENTER NEW FILENAME : newfile.txt

CONTENT OF ORIGINAL FILE:
hello there!
my name is brijesh rohit

CONTENT OF NEW FILE :
NEW FILE DOES NOT EXIST!

CONTENT OF ORIGINAL FILE :
hello there!
my name is brijesh rohit

CONTENT OF NEW FILE :
hello there!
my name is brijesh rohit

CONTENT OF NEW FILE :
hello there!
my name is brijesh rohit

Drijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ cat newfile.txt
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ cat newfile.txt
hello there!
my name is brijesh rohit
```

(6) Write a shell script to add two numbers supplied by user and supplied as command line argument.

(7) Write a shell script to find out biggest number form given three numbers. Numbers are supplied by command line argument.

```
#question 7

if [ $# == 3 ]
then

echo -e "GREATEST OF FROM $1, $2 AND $3 IS : \c"

if [ $1 -ge $2 ] && [ $1 -ge $3 ]
then

echo $1

elif [ $2 -ge $3 ]
then

echo $2

else

echo $3

fi

else

echo "ERROR! INCORRECT NUMBER OF ARGUMENTS"

fi
```

```
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q7.sh 10 12
13
GREATEST OF FROM 10, 12 AND 13 IS : 13
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q6.sh 10 12
SUM : 22
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q7.sh 10 12
ERROR! INCORRECT NUMBER OF ARGUMENTS
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q7.sh 10 12
13 15
ERROR! INCORRECT NUMBER OF ARGUMENTS
```

(8) Implement simple calculator. Numbers are supplied by command line argument.

```
esh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q8.sh
        brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q8.sh 10 12
INPUT AS FOLLOWS
2 : SUBTRACT
             sh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./g8.sh 10 12
INPUT AS FOLLOWS
3 : MULTIPLY
             sh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q8.sh 10 12
3 : MULTIPLY
            esh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q8.sh 10 0
INPUT AS FOLLOWS
              n-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q8.sh 10 1
```

(9) Write a shell script to print numbers in descending order using while loop.

```
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q9.sh
ENTER A NUMBER : 100
THE DECREASING ORDER IS AS : 100 99 98 97 96 95 94 93 92 91 90 89 88 87 86
85 84 83 82 81 80 79 78 77 76 75 74 73 72 71 70 69 68 67 66 65 64 63 62 61
60 59 58 57 56 55 54 53 52 51 50 49 48 47 46 45 44 43 42 41 40 39 38 37 36
35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11
10 9 8 7 6 5 4 3 2 1
```

(10) Write a shell script to create a simple calculator using switch-case statement.

```
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q10.sh
ENTER 1st NUMBER : 12
ENTER 2nd NUMBER : 10
INPUT AS FOLLOW :
1    : ADD
2    : SUBTRACT
3    : MULTIPLY
4    : DIVIDE
1
12 + 10 = 22
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q10.sh
ENTER 1st NUMBER : 12
ENTER 2nd NUMBER : 0
INPUT AS FOLLOW :
1    : ADD
2    : SUBTRACT
3    : MULTIPLY
4    : DIVIDE
4
DIVISION NOT POSSIBLE
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q10.sh
ENTER 1st NUMBER : 12
ENTER 2nd NUMBER : 0
INPUT AS FOLLOW :
1    : ADD
2    : SUBTRACT
3    : MULTIPLY
4    : DIVIDE
4
DIVISION NOT POSSIBLE
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q10.sh
ENTER 1st NUMBER : 10
INPUT AS FOLLOW :
1    : ADD
2    : SUBTRACT
3    : MULTIPLY
4    : DIVIDE
3
12 * 0 = 0
```

(11) Write a shell script to print given number in reverse order.

```
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q11.sh
ENTER A NUMBER : 123456789
REVERSE USING REV : 987654321
REVERSE USING WHILE : 987654321
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q11.sh
ENTER A NUMBER : 0001230103124
REVERSE USING REV : 4213010321000
REVERSE USING WHILE : 4213010321
```

(12) Write a shell script to print sum of all digits of a given number.

```
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q12.sh
ENTER A NUMBER : 123456789
SUM OF DIGITS OF NUMBER YOU ENTERED IS : 45
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q12.sh
ENTER A NUMBER : 09807605403201
SUM OF DIGITS OF NUMBER YOU ENTERED IS : 45
```

(13) Find the factorial value of given input number.

```
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q13.sh
ENTER NUMBER : 0
FACTORIAL OF 0 = 1
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q13.sh
ENTER NUMBER : 10
FACTORIAL OF 10 = 3628800
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q13.sh
ENTER NUMBER : 5
FACTORIAL OF 5 = 120
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q13.sh
ENTER NUMBER : -1
PLEASE ENTER A NON-NEGATIVE INTEGER!
```

(14) Generate and display Fibonacci series.

```
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q14.sh
ENTER NUMBER OF TERMS FOR FIBONACCI : -12
PLEASE ENTER A POSITIVE INTEGER
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q14.sh
ENTER NUMBER OF TERMS FOR FIBONACCI : 10
0 1 1 2 3 5 8 13 21 34
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q14.sh
ENTER NUMBER OF TERMS FOR FIBONACCI : 30
0 1 1 2 3 5 8 13 21 34 55 89 144 233 377 610 987 1597 2584 4181 6765 10946
17711 28657 46368 75025 121393 196418 317811 514229
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q14.sh
ENTER NUMBER OF TERMS FOR FIBONACCI : 50
0 1 1 2 3 5 8 13 21 34 55 89 144 233 377 610 987 1597 2584 4181 6765 10946
17711 28657 46368 75025 121393 196418 317811 514229 832040 1346269 2178309
3524578 5702887 9227465 14930352 24157817 39088169 63245986 102334155 16558
0141 267914296 433494437 701408733 1134903170 1836311903 2971215073 4807526
976 7778742049
```

(15) Display all even numbers within given range.

```
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q15.sh
ENTER LOWER LIMIT : 100
ENTER UPPER LIMIT : 200
102 104 106 108 110 112 114 116 118 120 122 124 126 128 130 132 134 136 138
140 142 144 146 148 150 152 154 156 158 160 162 164 166 168 170 172 174 17
6 178 180 182 184 186 188 190 192 194 196 198
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q15.sh
ENTER LOWER LIMIT : 101
ENTER UPPER LIMIT : 200
102 104 106 108 110 112 114 116 118 120 122 124 126 128 130 132 134 136 138 140 142 144 146 148 150 152 154 156 158 160 162 164 166 168 170 172 174 17 6 178 180 182 184 186 188 190 192 194 196 198
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q15.sh
ENTER LOWER LIMIT : 100
ENTER UPPER LIMIT : 201
102 104 106 108 110 112 114 116 118 120 122 124 126 128 130 132 134 136 138 140 142 144 146 148 150 152 154 156 158 160 162 164 166 168 170 172 174 17 6 178 180 182 184 186 188 190 192 194 196 198 200
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q15.sh
ENTER LOWER LIMIT : 101
ENTER UPPER LIMIT : 201
102 104 106 108 110 112 114 116 118 120 122 124 126 128 130 132 134 136 138 140 142 144 146 148 150 152 154 156 158 160 162 164 166 168 170 172 174 17 6 178 180 182 184 186 188 190 192 194 196 198 200

ENTER UPPER LIMIT : 201
102 104 106 108 110 112 114 116 118 120 122 124 126 128 130 132 134 136 138 140 142 144 146 148 150 152 154 156 158 160 162 164 166 168 170 172 174 17 6 178 180 182 184 186 188 190 192 194 196 198 200
```

(16) Find out number of characters, words and lines from a given file.

```
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ls
c10.png c3.png newfile.txt o2.png oldfile.txt q1.sh q8.sh.save
c11.png c4.png o10.png o3.png q10.sh q2.sh q9.sh
c12.png c5.png o11.png o4.png q11.sh q3.sh
c13.png c6.png o12.png o5.png q12.sh q4.sh
c14.png c7.png o13.png o6.png q13.sh q5.sh
c15.png c8.png o14.png o7.png q14.sh q6.sh
c1.png c9.png o15.png o8.png q15.sh q7.sh
c2.png file1.txt o1.png o9.png q16.sh q8.sh
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ cat file1.txt
how do you do?
hope you are fine @
buddy!
love the way you lie

end of session!
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-02$ ./q16.sh
SEARCH FILE NAME : file1.txt
No. of Characters: 96
No. of Words: 20
No. of Words: 20
```