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Section	CSE-D

1	Find the largest digit within a given integer.
Solution (Shell script)	```echo "Enter number" read n l=0 while [$n -gt 0] do rem=$((n%10)) if [$rem -gt $l] then l=$rem fi n=$((n/10)) done echo "Largest number is $l"```

| Output | ```
"Q1.sh" 13L, 148B written
[root@localhost ~]# ./Q1.sh
Enter number
2467
Largest number is 7
[root@localhost ~]# ./Q1.sh
Enter number
7654
Largest number is 7
[root@localhost ~]#
``` |
| 2 | **Write a script to check whether the given string is a palindrome.** |
| Solution<br><br>(Shell script) | ```
echo "Enter string"

read str

len=${#str}

for(( i=$len-1 ; i>=0 ; i-- ))

do

        rev="$rev${str:$i:1}"

done

if (( $rev == $str ))

then

        echo "String is palindrome"

else

        echo "String is not palindrome"

fi
``` |

| Output | ```
[root@localhost ~]# ./Q2.sh
Enter string
eae
String is palindrome
[root@localhost ~]#
``` |
| 3 | Find the occurrence of a given character in the given string. |
| Solution<br><br>(Shell script) | ```
echo Enter string

read str

echo Enter character to search

read x

len=${#str}

for (( i=0 ; i<$len ; i++ ))

do

        if (( $i == $x ))

        then

                echo Character is present

        fi

done
``` |
| Output | ```
[root@localhost ~]# ./Q3.sh
Enter string
Dharan
Enter character to search
n
Character is present
[root@localhost ~]#
``` |
| 4 | Check whether the given 3-digit number is the Armstrong number or not. |
| Solution | ```
echo Enter number
``` |

| (Shell script) | ```bash
read n
num=$n
sum=0
while [ $n -gt  0 ]
do
        rem=$((n%10))
        sum=$((sum+$((rem*rem*rem))))
        n=$((n/10))
done
if (( $num == $sum ))
then
        echo Is armstrong
else
        echo Is not armstrong
fi
``` |
|---|---|
| Output | ```
[root@localhost ~]# ./Q4.sh
Enter number
153
Is armstrong
[root@localhost ~]# ./Q4.sh
Enter number
245
Is not armstrong
[root@localhost ~]#
``` |

5	Create three directories in the present working directory and copy (py, c, c++) files that are in the present working directory to these directories (all C files in one directory, all PY files in another like that)
Solution (Shell script)	``` mkdir Python C CPP ls mv *.py Python/ mv *.c C/ mv *.cpp CPP/ cd Python ls cd .. cd C ls cd .. cd CPP ls cd .. ```
Output	``` "Q5.sh" [New] 14L, 112B written [root@localhost ~]# chmod +x Q5.sh [root@localhost ~]# ./Q5.sh bench.py C CPP demo.cpp hello.c Python Q5.sh bench.py hello.c demo.cpp [root@localhost ~]# ```