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Operating Systems Lab : Class Assignment

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Q1. Write a shell script to print the reverse of a number.

```
# Reverse a number using shell programming
# Abhishek S, 2021

n=123456
sd=0
rev=0
echo "The number is : $n"
while [ $n -gt 0 ]
do
    sd=$(( $n % 10 ))
    rev=$(( $rev * 10 + $sd ))
    n=$(( $n / 10 ))
done
echo "Reverse of this number is : $rev"
```

Output :

```
abhisheks008@LAPTOP-9RGGUF05:~$ vim assignment.sh
abhisheks008@LAPTOP-9RGGUF05:~$ ./assignment.sh
The number is : 123456
Reverse of this number is : 654321
```

Q2. Write a shell script to list all the files in the current directory which have the read, write and the execution properties.

```
# List all the files which have the r-w-x properties.
# Abhishek S, 2021

echo "List of the files in the directory :"
for file in *
do
    if [ -f $file ]
    then
        if [ -r $file -a -w $file -a -x $file ]
        then
            ls -l $file
        fi
    fi
done
```

Output :

```
abhisheks008@LAPTOP-9RGGUF05:~$ vim assignment.sh
abhisheks008@LAPTOP-9RGGUF05:~$ ./assignment.sh
List of the files in the directory :
-rwxr-xr-x 1 abhisheks008 abhisheks008 258 Oct  4 15:13 assignment.sh
```

Q3. Write a shell script to check whether a number is prime or not.

```
echo "enter number"
read num
function prime
{
    for((i=2; i<=num/2; i++))
    do
        if [ $(num%i) -eq 0 ]
        then
            echo "$num is not a prime number."
            exit
        fi
    done

    echo "$num is a prime number."
}
r=`prime $number`
echo "$r"
```

Output :

```
abhisheks008@LAPTOP-9RGGUF05:~$ vim assignment.sh
abhisheks008@LAPTOP-9RGGUF05:~$ ./assignment.sh
enter number
7
7 is a prime number.
abhisheks008@LAPTOP-9RGGUF05:~$ ./assignment.sh
enter number
10
10 is not a prime number.
```

Q4. Write a shell script to find the occurrences of the words in a file.

```
# Find the occurances of the words in a file
# Abhishek S, 2021

echo "Enter the filename : "
read filename
egrep -o "\b[[:alpha:]]+\b" $filename | \
    awk '{ count[$0]++ }
    END {printf("%-14s%s\n","Word","Count");
    for (ind in count)
        {printf("%-14s%d\n",ind,count[ind]);}
    }'
```