Tutorial Number: 02

TITLE: Shell Scripting

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CLASS:C   **BRANCH:Computer**   **BATCH:C1**

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Q.1]Write a shell script for a Calculator :

```
#!/bin/sh

num1=$1
num2=$2
temp=1

while [ $temp -eq 1 ]
do

echo "
1. Perform Addition
2. Perform Subtraction
3. Perform Multiplication
4. Perform Division
5. Perform Mod Operation
6. EXIT
"
#ch=0
flag=0
read ch

case $ch
in
1) echo -n "Addition is : "
   echo `expr $1 + $2`
   ;;

2) echo -n "Subtraction is : "
   echo `expr $1 - $2`
   ;;

3) echo -n "Multiplication is : "
   echo `expr $1 \* $2`
   ;;

4) echo -n "Division is : "
   echo `expr $1 / $2`
   ;;

5) echo -n "MOD is : "
   echo `expr $1 % $2`
   ;;

6) flag=$ch
   ;;

esac

if [ $flag -eq $ch ];then
break
fi
```

done

Output :

```
student@admin29-HP-Pro-3330-MT:~/Desktop/Untitled Folder$ sh Calculator.sh 3 5

1. Perform Addition
2. Perform Subtraction
3. Perform Multiplication
4. Perform Division
5. Perform Mod Operation
6. EXIT

1
Addition is : 8

1. Perform Addition
2. Perform Subtraction
3. Perform Multiplication
4. Perform Division
5. Perform Mod Operation
6. EXIT

2
Subtraction is : -2

1. Perform Addition
2. Perform Subtraction
3. Perform Multiplication
4. Perform Division
5. Perform Mod Operation
6. EXIT

3
Multiplication is : 15

1. Perform Addition
2. Perform Subtraction
3. Perform Multiplication
4. Perform Division
5. Perform Mod Operation
6. EXIT

4
Division is : 0

1. Perform Addition
2. Perform Subtraction
3. Perform Multiplication
4. Perform Division
5. Perform Mod Operation
6. EXIT

5
MOD is : 3

1. Perform Addition
2. Perform Subtraction
3. Perform Multiplication
4. Perform Division
5. Perform Mod Operation
6. EXIT

6
```

Q.2]Write a shell script for accepting File list and print it's type:

```sh
#!/bin/sh

FileName=$1

if [ -e $1 ];then
 echo "File Exists"
 FileListing=`ls -l $1`

 FileType=`echo $FileListing|cut -c 1`

 if [ -d $FileName ];then
  echo "Directory"
 fi

 case $FileType in
 -) echo "Regular File";;
 b) echo "Block Device File";;
 c) echo "Character Device File";;
 l) echo "Symbolic Link File";;
 s) echo "Socket File";;
 esac

 if [ -r $FileName ];then
  echo "Read Permission"
 elif [ -w $FileName ];then
  echo "Write Permission"
 elif [ -x $FileName ];then
  echo "Execute Permission"
 else
  echo "Absent"
 fi

else
 echo "File Does Not Exist"
fi
```

Output :

```
student@admin29-HP-Pro-3330-MT:~/Desktop/Untitled Folder$ sh File.sh
Calculator.sh
File Exists
Regular File
Read Permission

student@admin29-HP-Pro-3330-MT:~/Desktop/Untitled Folder$ sh File.sh New
File Exists
Regular File
Write Permission

student@admin29-HP-Pro-3330-MT:~/Desktop/Untitled Folder$ sh File.sh New
File Exists
Regular File
Execute Permission

student@admin29-HP-Pro-3330-MT:~/Desktop/Untitled Folder$ sh File.sh /dev/ram0
File Exists
Block Device File
Absent
```

Q.3]Write a shell script for accepting a Number and printing the reverse and the sum of digits:

```sh
#!/bin/sh

num=$1
sum=0
b1=$num
while [ $b1 -gt 0 ]
do
 b2=`expr $b1 % 10`
 #echo "$b2"
 echo -n $b2
 b1=`expr $b1 / 10`
 sum=`expr $sum + $b2`
done
echo
echo $sum
```

Output :

```
student@admin29-HP-Pro-3330-MT:~/Desktop/Untitled Folder$ sh Number.sh 456
654
15
```

Q.4]Write a shell script for accepting a string and checking if the string is Palindrome or not :

```sh
#!/bin/sh

String=$1
len=${#String}

i=1;flag=0
mid=`expr $len / 2`
temp=$len

while [ $i -le $mid ]
do
 ch1=`echo $String|cut -c $i`
 ch2=`echo $String|cut -c $len`

 if [ $ch1 != $ch2 ];then
  flag=1
  break;
 fi

 i=`expr $i + 1`
 len=`expr $len - 1`
done

if [ $flag -eq 1 ];then
 echo "Not Palindrome"
else
 echo "Palindrome"
fi
```

Output :

```
#student@admin49-OptiPlex-360:~/Desktop$ ./Palindrom.sh nitin
#Palindrome
#student@admin49-OptiPlex-360:~/Desktop$ ./Palindrom.sh niti
#Not Palindrome
```