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1. Write a script to create 10 directories, say a1,a2,...,a10

Report error if a directory/file exists with the same name.

**Ans :-**

```
echo " How many directory create: "
read num
for((i=1 ; i<=num ; i++))
do
    mkdir a$i
done

~
```

2. Write a menu based script to perform following string operations

a) To find length of a string

c) Copying string

d) Concatenation of strings

e) Compare two strings

f) Reversing a string

**Ans :-**

```
echo '1.find length '
echo '2.coping string '
echo '3.concate of string '
echo '4.compare to string '
echo '5.reverse string '
echo "enter string"
    read str1
    read option
    case $option in
        1) echo ${#str1}
        ;;
        2) str2=$str1
            echo $str2
        ;;
        3) str2="pvn"
            echo $str1$str2
        ;;
        4)echo "enter second  string for compare "
            read str2;

            if [ $str1 == $str2 ]
            then
                echo " equal "
```

```
                else
                    echo " not equal "
                fi
                ;;
            5)  echo  “Enter String1:”
    read str

    len=`expr $str | wc -c`
    len=`expr $len - 1`
    while [ $len -gt 0 ]
    do
        rev=`expr $str | cut -c $len`
        ans=$ans$rev
        len=`expr $len - 1`
    done
    echo Reverse String: $ans
            ;;
    esac
~
```

3. Write a shell script to rename all files in the current directory with numeric continuous value(Warning: Do this in a personal folder. Don't use Home directory)

```
Ans :-  for (( i=1; i<10; i++))
        do
            mv a$i renamefile$i
        done
        ~
```

4. Write a script that print environment variable(Print $HOME,$PATH,$SHELL,$HISTORY,$LOGNAME,$TERM)

```
Ans:-   echo "Path = $PATH"
        echo "Shell = $SHELL"
        echo "History = $HISTORY"
        echo "Logname = $LOGNAME"
        echo "Term = $TERM"
```

5. Write a shell script to print all files permissions in current directory(Not name or other details)(Use cut commands)

```
ANS:-   ls -la | cut -b 1-10
        ls -la | cut -c 1-10
~
```

6. Write a shell script to print all files permissions and name of file

```
Ans :- ls -l | awk '{ print $1 }'
~
```

7.Write a shell script to print all files name and size greater than 5K

```
Ans:-   for i in *
        do
            if [ -e $i ]
            then
                file=`ls -l $i | awk '{print $5}'`
                if (( $file > 5000 ))
```

```
                then
                        ls -l $i
                fi
        fi
done
```

**Shell Programs :**

1. Write a script To check given year is leap or not.

**Ans:-**

```
echo "enter a year and check its leap year or not "
read year
if (( $year%4 == 0 && $year%100 != 0 || $year%400 ==0))
then
     echo 'leap year'
else
    echo " not leap year "
fi
~
```

2. Write a script to print day of the week using

a) elif :-

**Ans:-**

```
echo 'Enter the number of Day : '
read day

if [ $day == 1 ]
then
     echo 'Sunday'
elif [ $day == 2 ]
then
     echo 'Monday'
elif [ $day == 3 ]
then
     echo 'Tuesday'
elif [ $day == 4 ]
then
     echo 'Wednesday'
elif [ $day == 5 ]
then
     echo 'Thrusday'
elif [ $day == 6 ]
then
     echo 'Friday'
elif [ $day == 7 ]
then
     echo 'Saturday'
else
     echo 'Invalid Entry'
fi
```

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b) case :-

**Ans:- echo " enter the num 1-7 "**

```
read num
case $num in
      1) echo "sunday" ;;
      2) echo "mon" ;;
      3) echo "tue " ;;
      4) echo "wed " ;;
      5) echo "thu " ;;
      6) echo "fri " ;;
      7) echo "sat " ;;
esac
~
~
```

3. a) Write a script to find biggest of three no.s

**Ans :-**

```
echo "enter 1st number"
 read num1
echo "enter 2nd number"
  read num2
echo "enter 3rd number"
  read num3

if [ $num1 -gt $num2 ] && [ $num1 -gt $num3 ]
 then
  echo " $num1 is greatest number"

elif [ $num2 -gt $num1 ] && [ $num2 -gt $num3 ]
  then
    echo " $num2 is greatest number"
else
    echo " $num3 is greatest number"
fi
```

b) To find avg of 3 no.s, read no.s from keyboard

**Ans:-**

```
echo "enter 1st number"
 read num1
echo "enter 2nd number"
 read num2
echo "enter 3rd number"
 read num3

sum=`expr $num1 + $num2 + $num3`
 avg=`expr $sum / 3`
  echo "Sum = $sum"
 echo "Average = $avg"
```

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4. Write a program to check whether given no.is even or odd

**Ans :-**

```
echo " Enter the number "
 read  number
if [ $((number%2)) -eq 0 ]
then
echo "Number is even."
else
echo "Number is odd."
fi
```

5. Write a program to print calendar of current month in next year,previous years.

For eg:-sep 2014,sep 2012 if current month is sep 2013

**Ans :-**

```
mon=$(date | awk '{print $3}')
year=$(date | awk '{print $4}')
let "prev=year-1" "next=year+1"
cal $mon $prev
cal $mon $year
cal $mon $next
```

6. Write a program to find sum and product of two no.s using

a) let :-

**Ans :-**

```
a=10
b=20
 echo " Sum is :"
let "sum=$(( $a + $b ))"
echo $sum

echo " product is:"
let "prod=$(( $a * $b))"
echo $prod
~
```

b)expr:-

**Ans:-**

```
echo "Enter two numbers"
read num1 num2
sum = 'expr $num1 + $num2'
echo "The sum is = $sum"
prod = 'expr $num1 + $num2'
```

```
echo "The product is = $prod"
```

c) bc :-

**Ans :- echo 'scale=4;10+20' | bc**

7. Write a script to generate Fibonacci series.

**Ans :- echo 'Enter the range till you want to calculate the Fibonaccci Series : '**

```
read range
i=1
prev=0
newprev=0
while (( $i+$prev < $range ))
do
    echo $(expr $prev + $i)
    newprev=$prev
    prev=$i
    i=$(expr $newprev + $i)
done
```

~

8. Write a shell script to reverse the single strings.

**Ans :- echo "Enter String1:"**

```
read str

len=`expr $str | wc -c`
len=`expr $len - 1`
while [ $len -gt 0 ]
do
    rev=`expr $str | cut -c $len`
    ans=$ans$rev
    len=`expr $len - 1`
done
echo Reverse String: $ans
```

9.Write a shell script to reverse the list of strings and reverse each string further in the list.

**Ans :- echo 'Enter array of Strings : '**

```
read -a arr
min=0
max=`expr ${#arr[@]} - 1`
x=$max
while (( $min <= $max ))
do
        newArr[$min]=${arr[$max]}
        newArr[$max]=${arr[$min]}
        (( min++ ))
        (( max-- ))
```

```
done
max=$x

for (( i=0; i<=max; i++ ))
do
        rev=""
        str=${newArr[$i]}
        let "len=${#str} -1"
        for (( j=$len; j>=0; j-- ))
        do
                rev="$rev${str:$j:1}"
        done
        newArr[$i]=$rev
done

echo ${newArr[@]}
```

10. Write a shell script to print the reverse of an input number.

**Ans :-**

```
echo 'Enter a number : '
read num
n=$num
sum=0
rem=0
while (( $n > 0 ))
do
        rem=`expr $n % 10`
        sum=`expr $sum \* 10`
        sum=`expr $sum + $rem`
        n=`expr $n / 10`
done
echo 'Reverse : ' $sum
```