OS Lab Assignment 4

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1.Write Shell script to find out positive and negative numbers from accepted array.Assume Array consists of 5 numbers.Also accept array from user.

```
pawar@DESKTOP-HK7JURI:~$ nano s33.sh
pawar@DESKTOP-HK7JURI:~$ bash s33.sh
Enter the 1 element
2
Enter the 2 element
3
Enter the 3 element
8
Enter the 4 element
-3
Enter the 5 element
-13
The positive numbers are
2
3
8
The negative numbers are
-3
-13
pawar@DESKTOP-HK7JURI:~$
```

```
  GNU nano 6.2
for((i=0;i<5;i++))
do
        echo "Enter the $((i+1)) element"
        read input
        arr[$i]=$input
done
echo "The positive numbers are"
for((i=0;i<5;i++))
do
        elm=${arr[$i]}
        if [ $elm -ge 0 ]
        then
                echo $elm
        fi
done

echo "The negative numbers are"
for((i=0;i<5;i++))
do
        elm=${arr[$i]}
        if [ $elm -lt 0 ]
        then
                echo $elm
        fi
done
```

2.Write Shell script to find out even and odd numbers from accepted array.Assume Array consists of 5 numbers. Also accept arrays from users.

```
  GNU nano 6.2
for((i=0;i<5;i++))
do
        echo "Enter the $((i+1)) element"
        read input
        arr[$i]=$input
done
echo "The even numbers are"
for((i=0;i<5;i++))
do
        elm=${arr[$i]}
        if [ $((elm%2)) -eq 0 ]
        then
                echo $elm
        fi
done

echo "The odd numbers are"
for((i=0;i<5;i++))
do
        elm=${arr[$i]}
        if [ $((elm%2)) -ne 0 ]
        then
                echo $elm
        fi
done
```

```
pawar@DESKTOP-HK7JURI:~$ bash s34.sh
Enter the 1 element
23
Enter the 2 element
76
Enter the 3 element
9
Enter the 4 element
10
Enter the 5 element
5
The even numbers are
76
10
The odd numbers are
23
9
5
pawar@DESKTOP-HK7JURI:~$
```

3.Write Shell script to sort array numbers ascending and descending order.Assume Array consists of 5 numbers. Also accept arrays from users.

```
pawar@DESKTOP-HK7JURI:~$ nano s31.sh
pawar@DESKTOP-HK7JURI:~$ bash s31.sh
Enter number pf elements in array:
5
Enter numbers in array:
5
8
2
9
6
Numbers in an array are:
5
8
2
9
6

Sorted Numbers in descending order
9
8
6
5
2

Sorted numbers in ascending order

2
5
6
8
9
pawar@DESKTOP-HK7JURI:~$
```

```
  GNU nano 6.2
echo "Enter number pf elements in array: "
read n

echo "Enter numbers in array:"
for (( i = 0; i < $n; i++ ))
do
read nos[$i]
done

echo "Numbers in an array are:"
for (( i = 0; i < $n; i++ ))
do
echo ${nos[$i]}
done

for (( i = 0; i < $n; i++ ))
do
for (( j = $i; j < $n; j++ ))
do
if [ ${nos[$i]} -lt ${nos[$j]} ];
then
t=${nos[$i]}
nos[$i]=${nos[$j]}
nos[$j]=$t
fi
done
done

echo -e "\nSorted Numbers in descending order"
for (( i=0; i < $n; i++ ))
do
echo ${nos[$i]}
done

echo -e "\nSorted numbers in ascending order"
for (( i = $n; i >= 0; i-- ))
do
echo ${nos[$i]}
done
```

4.Write Shell script to find out smallest number and largest number of given array.Assume Array consists of 5 numbers. Also accept arrays from users.

```
pawar@DESKTOP-HK7JURI:~$ nano s32.sh
pawar@DESKTOP-HK7JURI:~$ bash s32.sh
Enter size of array:
5
Numbers in array are:
3
96
4
60
0
Smallest number in array is 0
Greatest number in array is 96
pawar@DESKTOP-HK7JURI:~$
```

```
  GNU nano 6.2                                                s32.sh
echo "Enter size of array:"
read n
echo "Numbers in array are:"
for((i=0;i<n;i++))
do
        read nos[$i]
done

small=${nos[0]}
greatest=${nos[0]}
for((i=0;i<n;i++))
do
if [ ${nos[$i]} -lt $small ]
then
        small=${nos[$i]}
elif [ ${nos[$i]} -gt $greatest ]
then
        greatest=${nos[$i]}
fi
done

echo "Smallest number in array is $small"
echo "Greatest number in array is $greatest"
```

5.Write shell script to find out the reverse number of a given number.

```
  GNU nano 6.2
echo "Enter number:"
read n
sd=0
rev=0
while [ $n -gt 0 ]
do
        sd=$(( $n % 10 ))
        rev=$(( $rev * 10 + $sd ))
        n=$(( $n / 10 ))
done
echo "Reverse of number is:"
echo "$rev"
```

```
pawar@DESKTOP-HK7JURI:~$ nano s30.sh
pawar@DESKTOP-HK7JURI:~$ bash s30.sh
Enter number:
2356
Reverse of number is:
6532
pawar@DESKTOP-HK7JURI:~$
```

6.Write a shell script to create a fibonacci series.

```
  GNU nano 6.2
N=8
a=0
b=1
echo "Fibonacci series is : "

for (( i=0; i<N; i++ ))
do
        echo -n "$a "
        fn=$((a + b))
        a=$b
        b=$fn
done
```

```
pawar@DESKTOP-HK7JURI:~$ nano s29.sh
pawar@DESKTOP-HK7JURI:~$ bash s29.sh
Fibonacci series is :
0 1 1 2 3 5 8 13 pawar@DESKTOP-HK7JURI:~$
```