

Problem 1: Finding minimum and maximum value in an array.

Solution:

```
showmik@showmik-virtual-machine: ~
GNU nano 6.2 MaxMinAr.sh *
#!/bin/bash
echo "How many elements in the array?"
read n
max=-9999
min=9999
for((i=1;i<=$n;i++))
do
    read t
    arr[$i]=$t
done

for((i=1;i<=$n;i++))
do
    t=${arr[$i]}
    if [ $t -lt $min ]
    then
        min=$t
    fi
    if [ $t -gt $max ]
    then
        max=$t
    fi
done
echo "maximum value:" $max "and minimum value:" $min
```

```
showmik@showmik-virtual-machine: ~
showmik@showmik-virtual-machine:~$ touch MaxMinAr.sh
showmik@showmik-virtual-machine:~$ chmod +rx MaxMinAr.sh
showmik@showmik-virtual-machine:~$ nano MaxMinAr.sh
showmik@showmik-virtual-machine:~$ ./MaxMinAr.sh
How many elements in the array?
5
3
2
4
1
6
maximum value: 6 and minimum value: 1
showmik@showmik-virtual-machine:~$
```

Problem 2: Sorting an array in ascending and descending order.

Solution:

```
showmik@showmik-virtual-machine: ~
GNU nano 6.2 AscDesc.sh *
#!/bin/bash
echo "Enter array size:"
read n
max=-9999
min=9999
echo "Enter elements:"
for((i=1;i<=$n;i++))
do
    read t
    arr1[$i]=$t
    arr2[$i]=$t
done
for((i=1;i<=$n;i++))
do
    for((j=i+1;j<=$n;j++))
    do
        a=${arr1[$i]}
        b=${arr1[$j]}
        if [ $a -gt $b ]
        then
            arr1[$i]=$b
            arr1[$j]=$a
        fi
        a=${arr2[$i]}
        b=${arr2[$j]}
        if [ $a -lt $b ]
        then
            arr2[$i]=$b
            arr2[$j]=$a
        fi
    done
done
echo "Array in ascending order:"
echo ${arr1[*]}
echo "Array in descending order:"
echo ${arr2[*]}
```

```
showmik@showmik-virtual-machine:~$ touch AscDesc.sh
showmik@showmik-virtual-machine:~$ chmod +rwx AscDesc.sh
showmik@showmik-virtual-machine:~$ nano AscDesc.sh
showmik@showmik-virtual-machine:~$ ./AscDesc.sh
Enter array size:
5
Enter elements:
1
3
-5
20
3
Array in ascending order:
-5 1 3 3 20
Array in descending order:
20 3 3 1 -5
showmik@showmik-virtual-machine:~$
```



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