

Lab Assignment-08

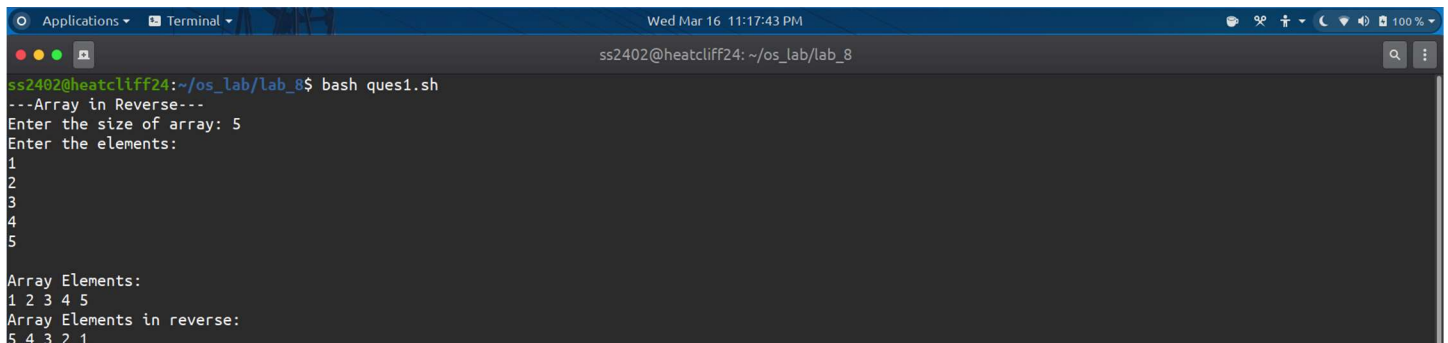
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QUES 1: WASS to input n numbers to an array and display in reverse order.

SOLUTION:

```
echo "---Array in Reverse---"
read -p "Enter the size of array: " n
echo "Enter the elements: "
for ((i=0;i<n;i++));
do
    read arr[$i]
done
echo
echo "Array Elements: "
for ((i=0;i<n;i++));
do
    echo -n ${arr[$i]} " "
done
echo
echo "Array Elements in reverse: "
for ((i=n;i>=0;i--));
do
    echo -n ${arr[$i]} " "
done
echo
```

OUTPUT:



```
ss2402@heatcliff24:~/os_lab/lab_8$ bash ques1.sh
---Array in Reverse---
Enter the size of array: 5
Enter the elements:
1
2
3
4
5

Array Elements:
1 2 3 4 5
Array Elements in reverse:
5 4 3 2 1
```

QUES 2: WASS to input n numbers to an array, reverse the array and display without using an extra array.

SOLUTION:

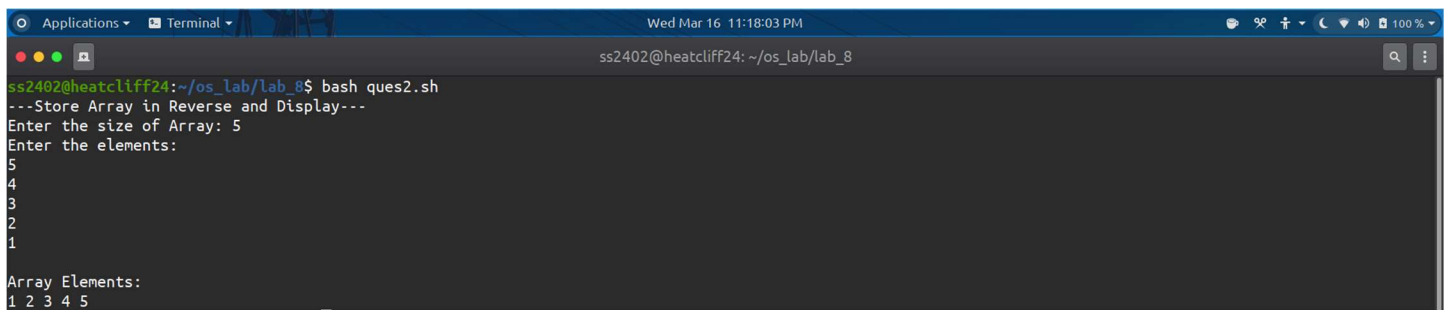
```
echo "---Store Array in Reverse and Display---"
read -p "Enter the size of Array: " n
echo "Enter the elements: "
for((i=0;i<n;i++));
do
    read arr[$i]
```

```

done
echo
min=0
max=$(( ${#arr[@]} -1 ))
while [[ min -lt max ]]
do
    x="${arr[$min]}"
    arr[$min]="${arr[$max]}"
    arr[$max]="$x"
    (( min++, max-- ))
done
echo "Array Elements: "
for((i=0;i<n;i++));
do
    echo -n "${arr[$i]} "
done
echo

```

OUTPUT:



```

ss2402@heatcliff24: ~/os_lab/lab_8$ bash ques2.sh
---Store Array in Reverse and Display---
Enter the size of Array: 5
Enter the elements:
5
4
3
2
1
Array Elements:
1 2 3 4 5

```

QUES 3: WASS to input n numbers to an array and perform the following operation like press 1: display the elements in ascending order and press 2: to display the elements in descending order using case structure.

SOLUTION:

```

echo "---Display Elements in Ascending and Descending---"
read -p "Enter the size of Array: " n
echo "Enter the elements: "
for((i=0;i<n;i++));
do
    read arr[$i]
done
echo
for ((i = 0; i<n; i++))
do

    for((j = 0; j<n-i-1; j++))
    do
        if [ ${arr[j]} -gt ${arr[$((j+1))]} ]
        then

```

```

        temp=${arr[j]}
        arr[j]=${arr[$((j+1))]}
        arr[$((j+1))]=$temp
    fi
done
done
echo "Display Order:"
echo "1. Ascending Order"
echo "2. Descending Order"
read -p "Enter Choice: " ch
case $ch in
    1)
        echo "Array Elements: "
        for((i=0;i<n;i++));
        do
            echo -n ${arr[$i]} " "
        done
        echo
        ;;
    2)
        echo "Array Elements in reverse: "
        for((i=n;i>=0;i--));
        do
            echo -n ${arr[$i]} " "
        done
        echo
        ;;
    *) echo "Wrong Input!!!"
        ;;
esac

```

OUTPUT:

```

ss2402@heatcliff24:~/os_lab/lab_8$ bash ques3.sh
---Display Elements in Ascending and Descending---
Enter the size of Array: 5
Enter the elements:
10
30
20
50
40

Display Order:
1. Ascending Order
2. Descending Order
Enter Choice: 1
Array Elements:
10 20 30 40 50

```

QUES 4: WASS to input two array with size m and n. Concatenate that two array and display.

SOLUTION:

```

echo "---Concatenate two Arrays and Display---"
echo "Input array 1"

```

```

read -p "Enter the size of Array: " m
echo "Enter the elements: "
for((i=0;i<m;i++));
do
    read arr1[$i]
done
echo
echo "Input array 2"
read -p "Enter the size of Array: " n
echo "Enter the elements: "
for((i=0;i<n;i++));
do
    read arr2[$i]
done
echo
arr1+=(${arr2[@]})
echo "Array Elements: "
for((i=0;i<m+n;i++));
do
    echo -n ${arr1[$i]} " "
done
echo

```

OUTPUT:

```

ss2402@heatcliff24:~/os_lab/lab_8$ bash ques4.sh
---Concatenate two Arrays and Display---
Input array 1
Enter the size of Array: 2
Enter the elements:
5
10

Input array 2
Enter the size of Array: 3
Enter the elements:
15
20
25

Array Elements:
5 10 15 20 25

```

QUES 5: WASS to input n numbers to an array. Swap the pairing element starts from the start index and display.

Example: A = {1, 2, 3, 4, 5}, O/P: A = {2, 1, 4, 3, 5}

SOLUTION:

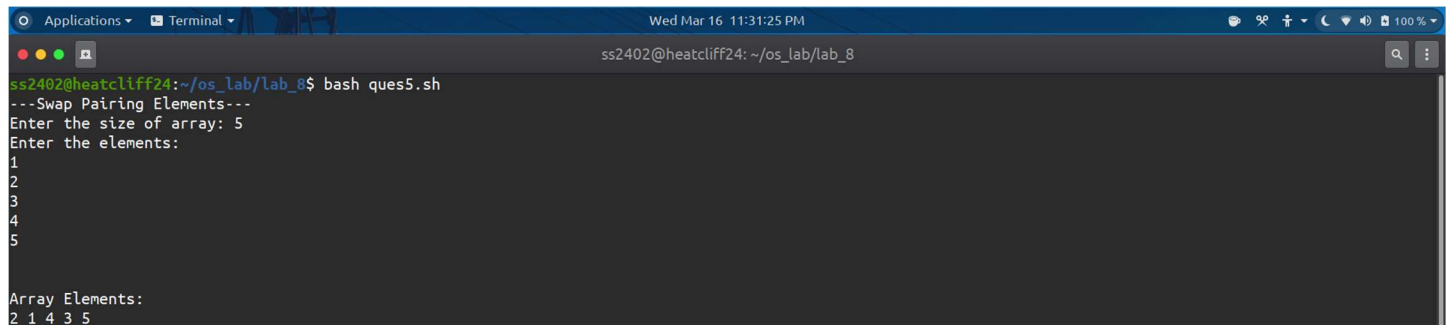
```

echo "---Swap Pairing Elements---"
read -p "Enter the size of array: " n
echo "Enter the elements: "
for((i=0;i<n;i++));
do
    read arr[$i]
done
echo
for ((i = 0; i<n; i++))
do

```

```
for((j = 0; j<n; j+=2))
do
    temp=${arr[j]}
    arr[j]=${arr[$((j+1))]}
    arr[$((j+1))]=$temp
done
done
echo
echo "Array Elements: "
for((i=0;i<n;i++));
do
    echo -n ${arr[i]} ""
done
if [ `expr $n % 2` != 0 ]
then
    echo ${arr[$n]}
fi
echo
```

OUTPUT:



The screenshot shows a terminal window with the following content:

```
ss2402@heatcliff24:~/os_lab/lab_8$ bash ques5.sh
---Swap Pairing Elements---
Enter the size of array: 5
Enter the elements:
1
2
3
4
5

Array Elements:
2 1 4 3 5
```

The terminal output demonstrates the script's functionality: it prompts for the array size (5) and elements (1, 2, 3, 4, 5), then displays the array elements after swapping adjacent pairs, resulting in 2 1 4 3 5.