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OS ASSIGNMENT – 2

Q1) Write a shell program to sort an array of numbers using bubble sort.

→ #! /bin/bash

arr=(9 16 49 69 32)

echo "Array in original order"

echo \${arr[*]}

for ((i = 0; i<5; i++))

do

for((j = 0; j<5-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
```

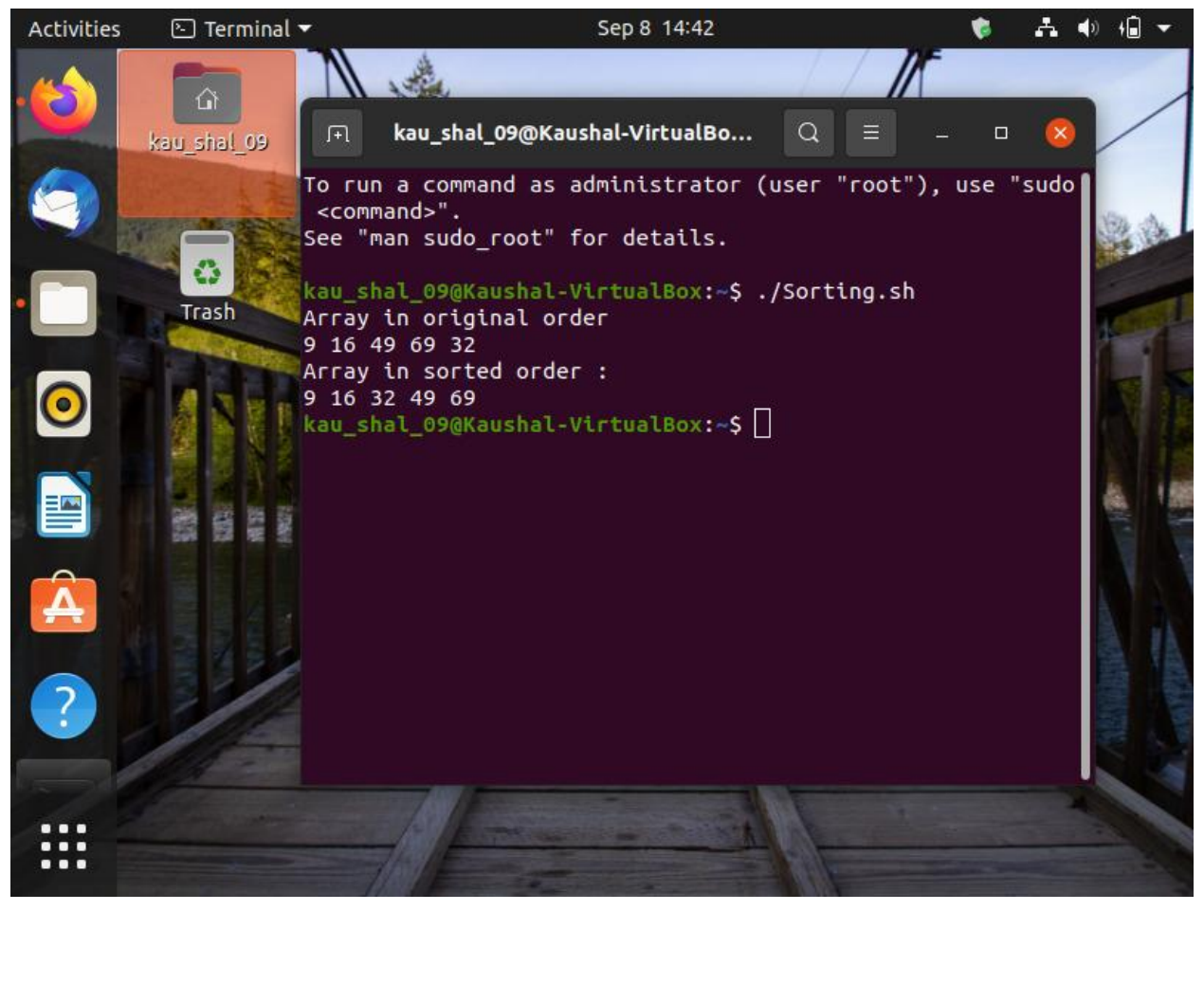
```
done
```

```
done
```

```
echo "Array in sorted order :"
```

```
echo ${arr[*]}
```

OUTPUT :



```
Activities Terminal Sep 8 14:42
kau_shal_09
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.
kau_shal_09@Kaushal-VirtualBox:~$ ./Sorting.sh
Array in original order
9 16 49 69 32
Array in sorted order :
9 16 32 49 69
kau_shal_09@Kaushal-VirtualBox:~$
```

Q2) Write a shell program to check if a given input string is a palindrome or not.

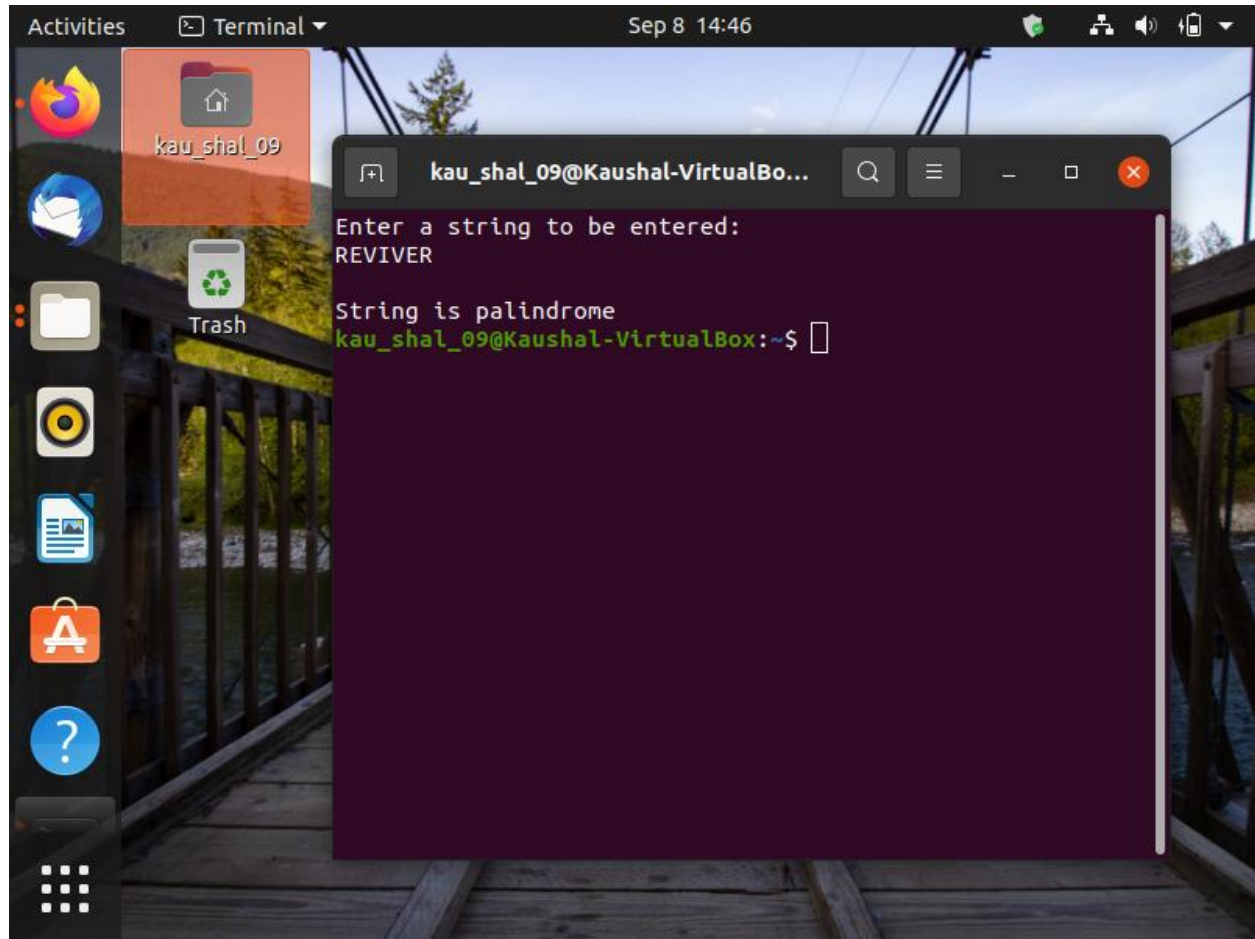
→ #!/bin/bash

clear

echo "Enter a string to be entered:"

```
read str
echo
len=`echo $str | wc -c`
len=`expr $len - 1`
i=1
j=`expr $len / 2`
while test $i -le $j
do
k=`echo $str | cut -c $i`
l=`echo $str | cut -c $len`
if test $k != $l
then
echo "String is not palindrome"
exit
fi
i=`expr $i + 1`
len=`expr $len - 1`
done
echo "String is palindrome"
```

OUTPUT:



The screenshot shows a Linux desktop environment. The top bar displays 'Activities', 'Terminal', and the date 'Sep 8 14:46'. The desktop background is a scenic view of a bridge over water. On the left, there is a dock with icons for Firefox, a folder named 'kau_shal_09', the Trash, and other applications. A terminal window is open in the foreground, titled 'kau_shal_09@Kaushal-VirtualBo...'. The terminal shows the following text:

```
Enter a string to be entered:  
REVIVER  
  
String is palindrome  
kau_shal_09@Kaushal-VirtualBox:~$
```

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