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Roll – 7

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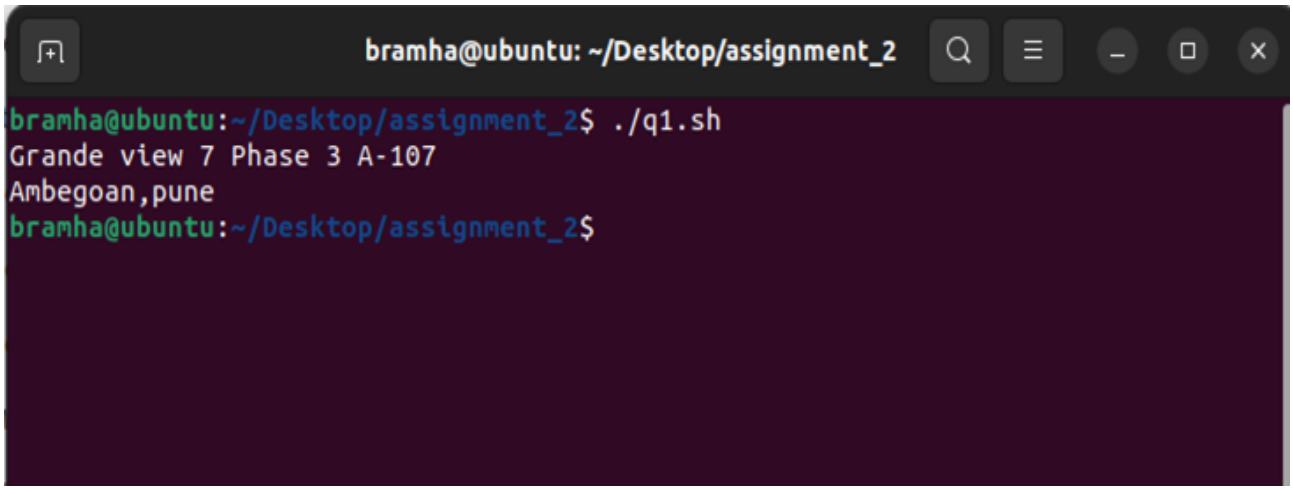
ASSIGNMENT 2

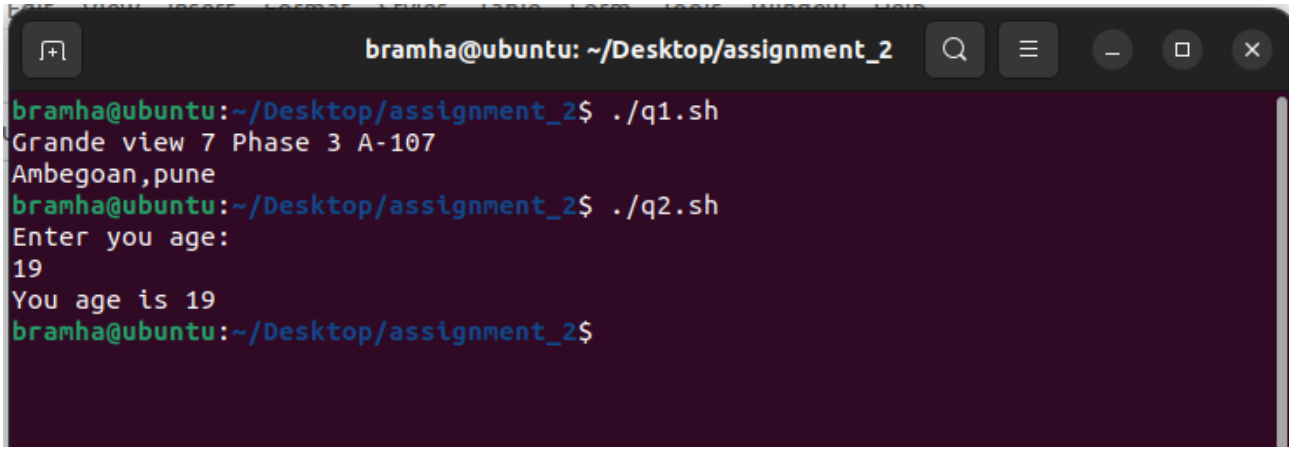
1. Write a shell script to display your permanent address.

```
#! /usr/bin/bash

echo "Grande view 7 Phase 3 A-107"
echo "Ambegoan,pune"
```



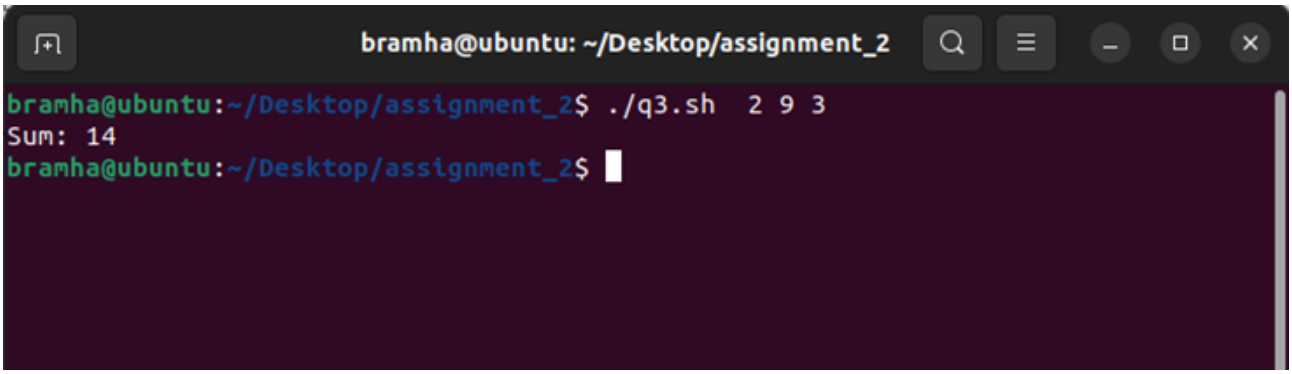
2. Write a shell script to take input from the user and display it.

```
#! /usr/bin/bash

echo "Enter you age:"
read age
echo "You age is $age"
```



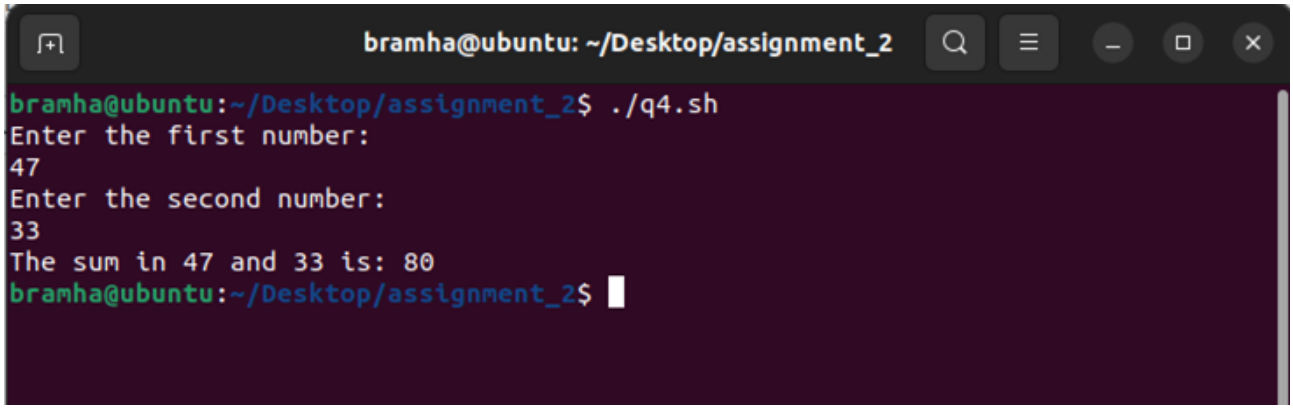
3. Write a shell script to demonstrate use of command line argument.

```
#! /usr/bin/bash
sum=0

for i in "$@";
do
   sum=$((sum + i))
done

echo "Sum: $sum"
```



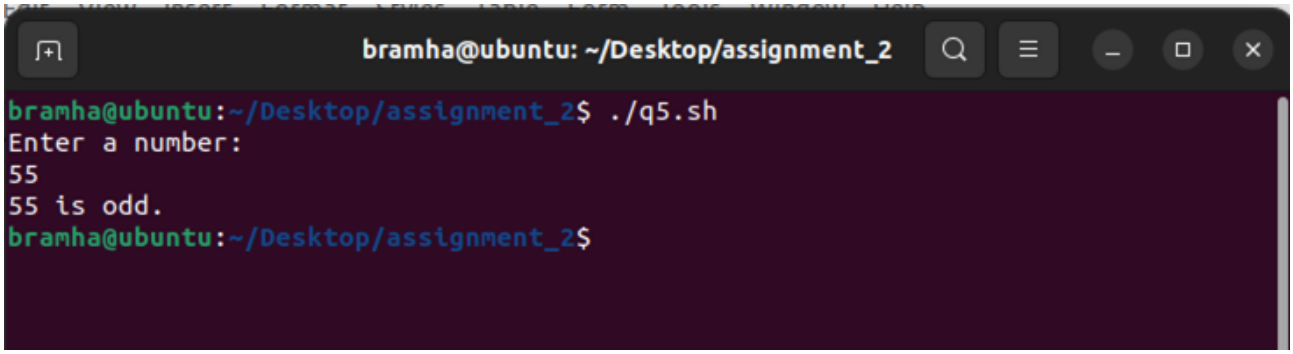
4. Write a shell scrpit to add two numbers where both the numbers are user iputs.

```
#! /usr/bin/bash

echo "Enter the first number:"
read num1

echo "Enter the second number:"
read num2

sum=$((num1 + num2))


echo "The sum in $num1 and $num2 is: $sum"
```



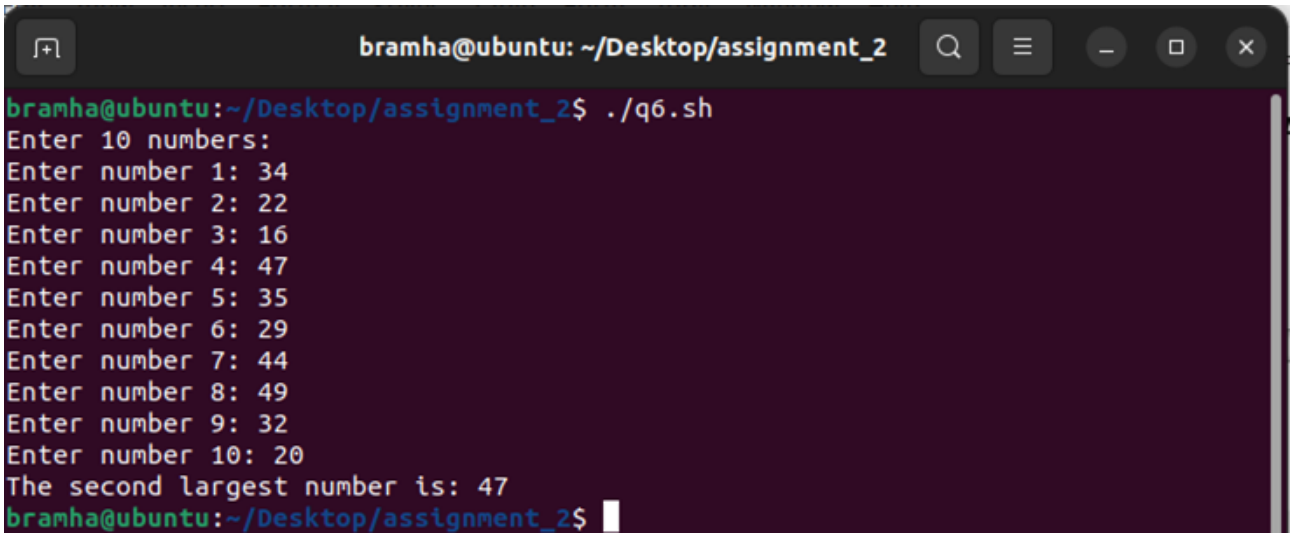
5. Write a shell script to check whether a number n is even or odd, where n is user input.

```
#! /usr/bin/bash

echo "Enter a number:"
read n

if [ $((n % 2)) -eq 0 ]; then
    echo "$n is even."
else
    echo "$n is odd."
fi
```



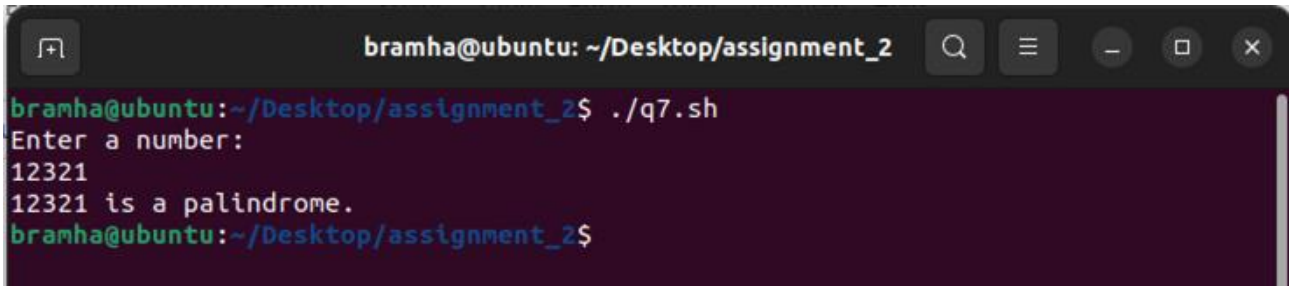
6. Write a shell script to input 10 numbers in array and find second largest number in it.

```
#! /usr/bin/bash
declare -a numbers

echo "Enter 10 numbers:"

for ((i = 0; i < 10; i++)); do
    read -p "Enter number $((i + 1)): " num
    numbers[$i]=$num
done

sorted_numbers=($(for i in "${numbers[@]}"; do echo "$i"; done | sort -nr))

second_largest=${sorted_numbers[1]}

echo "The second largest number is: $second_largest"
```



7. Write a shell script to check whether a number n is palindrome or not , where n is user input.

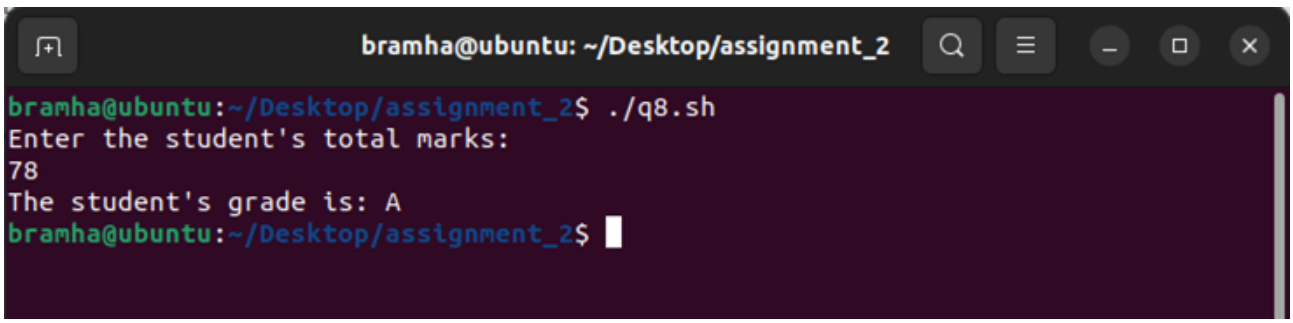
```
#! /usr/bin/bash

echo "Enter a number:"
read n

o_n=$n

r_n=0

while [ $n -gt 0 ]; do
    rem=$((n % 10))
    r_n=$((r_n * 10 + rem))
    n=$((n / 10))
done

if [ $o_n -eq $r_n ]; then
    echo "$o_n is a palindrome."
else
    echo "$o_n is not a palindrome."
fi
```



8. Write a shell script to check grade of a student as follows:
Total marks of the student=100
- If student ‘s mark>= 90,grade is O .
- If student ‘s mark>=8 0 and marks<90, grade is E.
- If student ‘s mark>=7 0 and marks<80, grade is A.
- If student ‘s mark>= 60 and marks<70, grade is B.
- If student ‘s mark>= 50 and marks<60, grade is C.

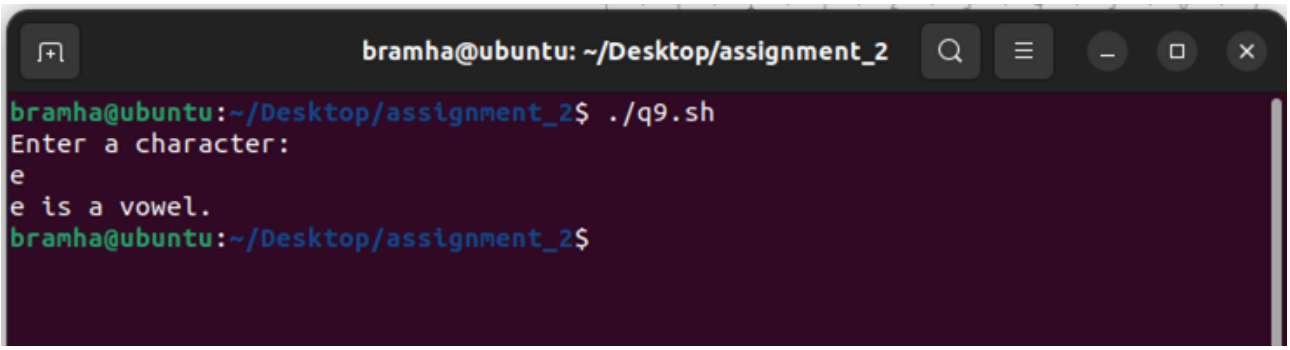
- If student ‘s mark < 50, grade is F.

```
#! /usr/bin/bash

echo "Enter the student's total marks:"
read total_marks


if [ $total_marks -ge 90 ]; then
   grade="O"
elif [ $total_marks -ge 80 ]; then
   grade="E"
elif [ $total_marks -ge 70 ]; then
   grade="A"
elif [ $total_marks -ge 60 ]; then
   grade="B"
elif [ $total_marks -ge 50 ]; then
   grade="C"
else
   grade="F"
fi


echo "The student's grade is: $grade"
```



9. Write a shell script to check if input character is vowel or not using case control statement.

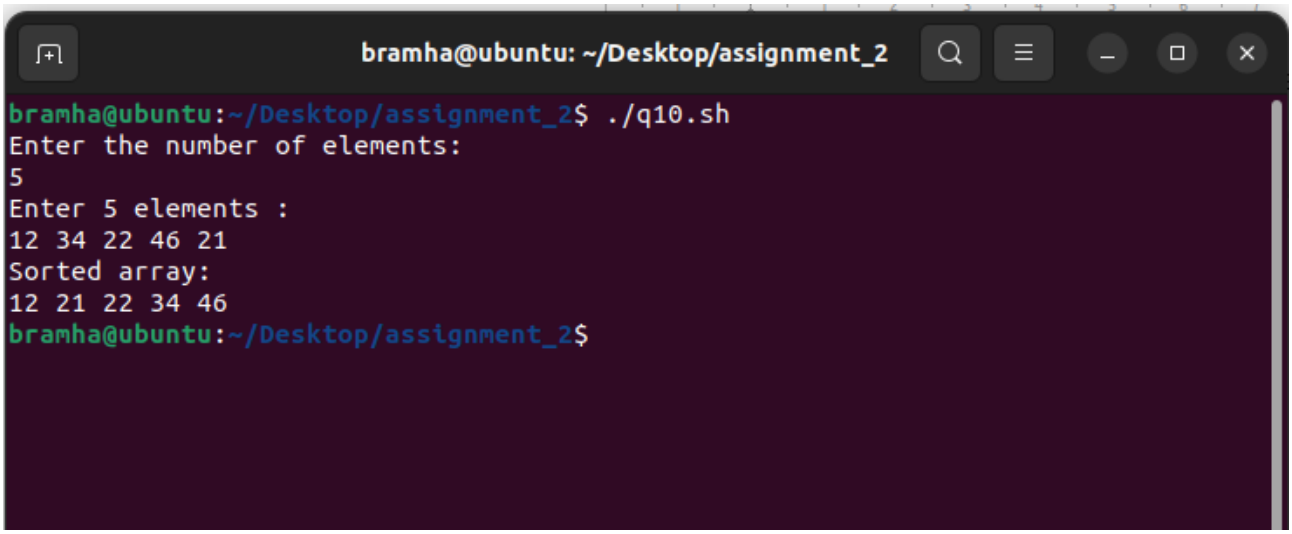
```
#! /usr/bin/bash

echo "Enter a character:"
read char

case "$char" in
   [AaEeIiOoUu])
      echo "$char is a vowel."
      ;;
   *)
      echo "$char is not a vowel."
      ;;
esac
```



10.Write a shell script to sort an array of n element using bubble sort, where n is user input.

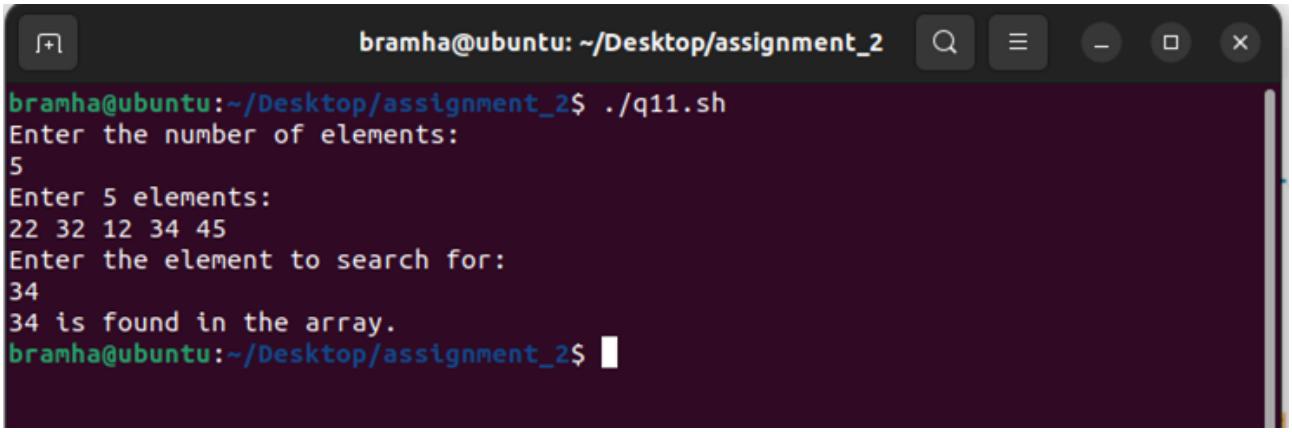
```
#! /usr/bin/bash

echo "Enter the number of elements:"
read n


declare -a elements
```

```
echo "Enter $n elements :"
read -a elements


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

            temp="${elements[j]}"
            elements[j]="${elements[j+1]}"
            elements[j+1]="$temp"
        fi
    done
done


echo "Sorted array:"
echo "${elements[@]}"
```



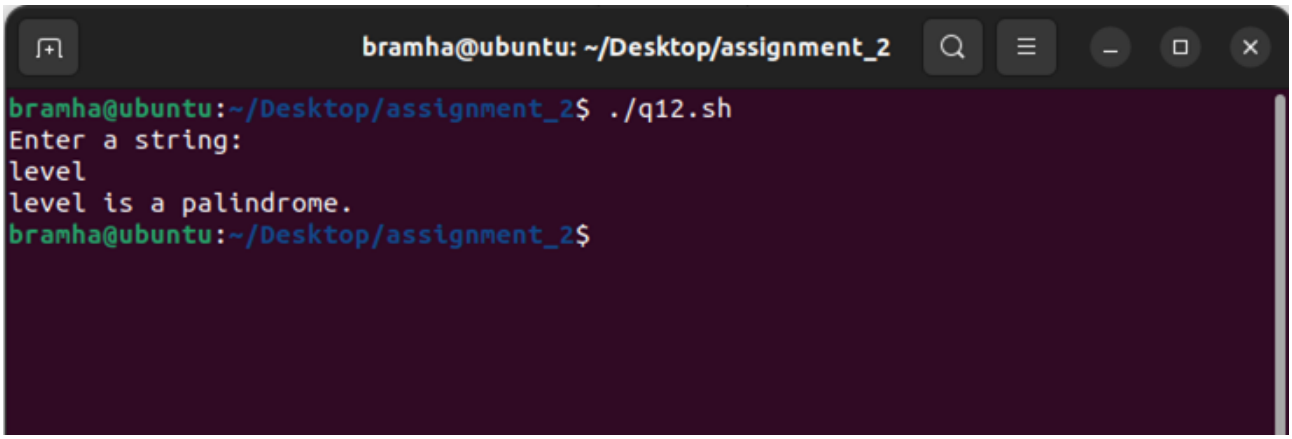
11. Write a shell script to search an element from an array of n elements where n is user input.

```
#! /usr/bin/bash

echo "Enter the number of elements:"
read n


declare -a elements


echo "Enter $n elements:"
read -a elements


echo "Enter the element to search for:"
read search_element


found=false


for ((i = 0; i < n; i++)); do
    if [ "${elements[i]}" = "$search_element" ]; then
        found=true
        break
    fi
done


if [ "$found" = true ]; then
    echo "$search_element is found in the array."
else
    echo "$search_element is not found in the array."
fi
```



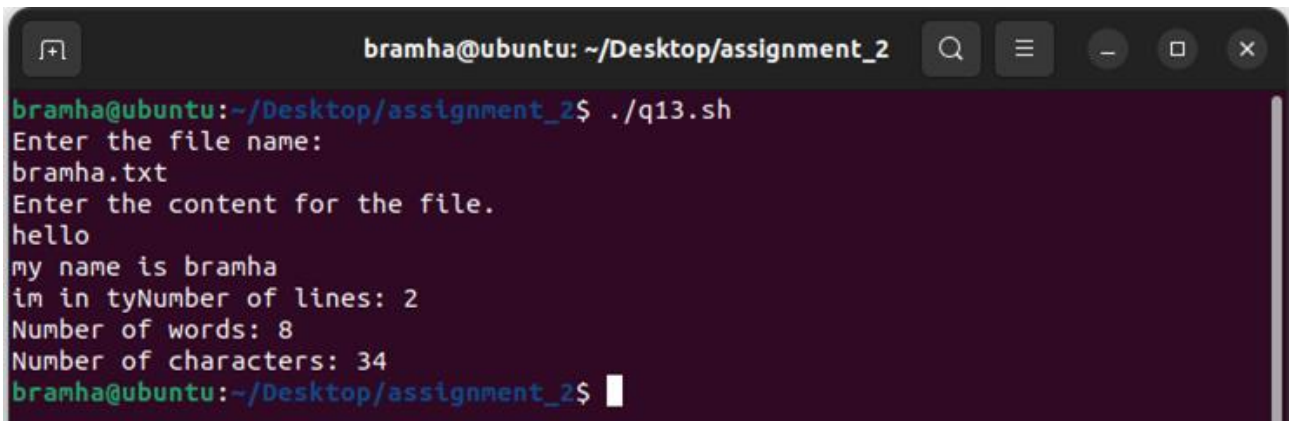
12. Write a shell script to check whether input string is palindrome or not.

```
#! /usr/bin/bash
echo "Enter a string:"
read input_string


reversed_string=$(echo "$input_string" | rev)

if [ "$input_string" = "$reversed_string" ]; then
    echo "$input_string is a palindrome."
else
    echo "$input_string is not a palindrome."

Fi
```



13. Write a shell script to create a file and count number of lines, number of words and number of characters from the file.

```
#! /usr/bin/bash
echo "Enter the file name:"
read filename


echo "Enter the content for the file."
cat > "$filename"


if [ -f "$filename" ]; then

    num_lines=$(wc -l < "$filename")
    num_words=$(wc -w < "$filename")
    num_chars=$(wc -m < "$filename")


    echo "Number of lines: $num_lines"
    echo "Number of words: $num_words"
    echo "Number of characters: $num_chars"
else
    echo "File not found or created."
fi
```



14. Write a shell script to search a pattern from a file, where filename is user input.

```
#! /usr/bin/bash
echo "Enter the filename:"
read filename


if [ -f "$filename" ]; then

    echo "Enter the pattern to search:"
    read pattern


    grep "$pattern" "$filename"
else
    echo "File not found."
fi
```