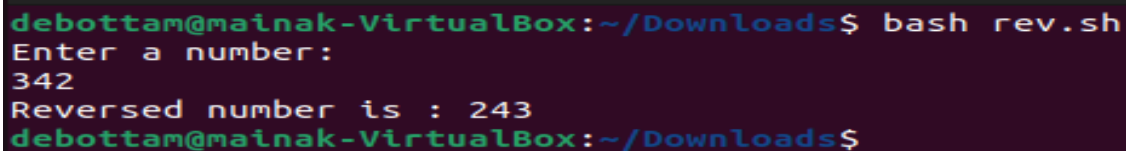


1. Write a shell script to input a number print a number in reverse order.

CODE:

```
echo "Enter a number:"
read num
reverse=0
while [ $num -gt 0 ]
do
    remainder=$(( $num % 10 ))
    reverse=$(( $reverse * 10 + $remainder ))
    num=$(( $num / 10 ))
done
echo "Reversed number is : $reverse"
```

OUTPUT:

A terminal window with a dark purple background. The prompt is 'debottam@mainak-VirtualBox:~/Downloads\$'. The user enters 'bash rev.sh'. The script prompts 'Enter a number:' and the user enters '342'. The script outputs 'Reversed number is : 243'. The prompt returns to 'debottam@mainak-VirtualBox:~/Downloads\$'.

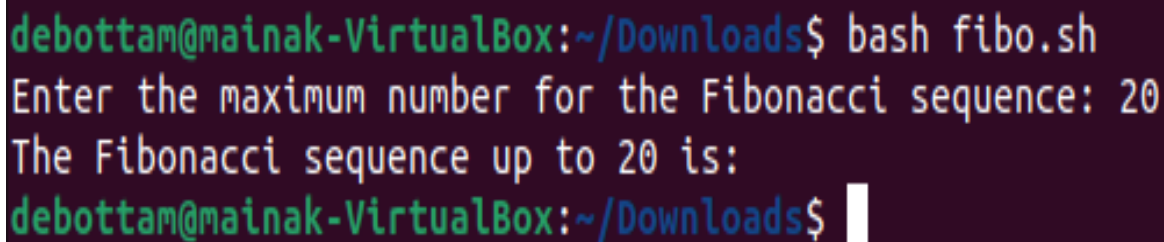
```
debottam@mainak-VirtualBox:~/Downloads$ bash rev.sh
Enter a number:
342
Reversed number is : 243
debottam@mainak-VirtualBox:~/Downloads$
```

2. Write a shell script to input a number print Fibonacci series up to that given number. The series starts with 1 1

CODE:

```
function print_fibonacci() {  
    max=$1  
    a=1  
    b=1  
    echo "The Fibonacci sequence up to $max is: "  
  
    while [ $a -le $max ]  
    do  
        echo -n "$a "  
        fn=$((a + b))  
        a=$b  
        b=$fn  
    done  
}  
read -p "Enter the maximum number for the Fibonacci sequence: " max_number  
print_fibonacci $max_number
```

OUTPUT:

A terminal window with a dark purple background. The prompt is 'debottam@mainak-VirtualBox:~/Downloads\$'. The user enters 'bash fibo.sh'. The script prompts 'Enter the maximum number for the Fibonacci sequence: 20'. The script outputs 'The Fibonacci sequence up to 20 is:'. The prompt returns to 'debottam@mainak-VirtualBox:~/Downloads\$' with a white cursor.

```
debottam@mainak-VirtualBox:~/Downloads$ bash fibo.sh  
Enter the maximum number for the Fibonacci sequence: 20  
The Fibonacci sequence up to 20 is:  
debottam@mainak-VirtualBox:~/Downloads$
```

3. Write a shell script to input a sentence and print the longest word in it.

CODE:

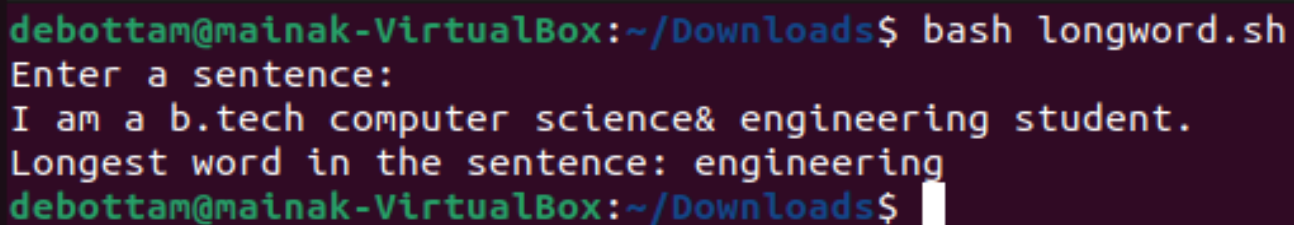
```
echo "Enter a sentence:"
read sentence

words=$(echo "$sentence" | tr -d '[:punct:]' | tr ' ' '\n'))

longest_word=""
max_length=0

for word in "${words[@]"; do
    word_length=${#word}
    if [ "$word_length" -gt "$max_length" ]; then
        max_length=$word_length
        longest_word="$word"
    fi
done
echo "Longest word in the sentence: $longest_word"
```

OUTPUT:

A terminal window with a dark purple background. The prompt is 'debottam@mainak-VirtualBox:~/Downloads\$'. The user enters 'bash longword.sh'. The script prompts 'Enter a sentence:' and the user enters 'I am a b.tech computer science& engineering student.'. The script then outputs 'Longest word in the sentence: engineering'. The prompt returns to 'debottam@mainak-VirtualBox:~/Downloads\$' with a cursor.

```
debottam@mainak-VirtualBox:~/Downloads$ bash longword.sh
Enter a sentence:
I am a b.tech computer science& engineering student.
Longest word in the sentence: engineering
debottam@mainak-VirtualBox:~/Downloads$
```