ANSWER TO THE QUESTION NO-01

```
#!/bin/bash
echo "Please enter the numbers:"
read -a numbers
sum=0
for i in "${numbers[@]}"; do
        sum = $(expr $sum + $i)
done.
echo sum : $sum
```

ANSWER TO THE QUESTION NO-02

```
#!/bin/bash
file="check.txt"
if [ -f "$file" ]; then
      wordcount=`wc -w < $file`
      echo "The word count of $file is : $wordcount"
else
      echo "file does not exist"
fi
```

ANSWER TO THE QUESTION NO-03

```
#!/bin/bash
file = "records.txt"
if [-f "$file" ]; then
      linecount =`wc-l < $file`
      echo "The number of lines in $file is : $linecount"
else
      echo "File does not exists"
fi.
```

ANSWER TO THE QUESTION No-04

```
#!/bin/bash
file="log.txt"
if [ -f "$file" ]; then
        temp_file="temp_log.txt"
        while read -r line; do
                echo "${line//error/issue}" >> "$temp_file"
        done < "$file"
        mv "$temp_file" "$file"
        echo "Replaced all occurances of 'error' with 'issue' in
                $file"

else    echo "File does not exists"

fi
```

ANSWER TO THE QUESTION No-05

```
#!/bin/bash
file="names.txt"
if [ -f "$file" ]; then
        word_count=0
        while read -r line; do
                word_count=$((word_count + $(echo $line | wc -w)))
        done < "$file"
        echo "The total number of words in $file is: $word_count"

  else  echo 'file does not exist'

fi
```

ANSWER TO THE QUESTION NO -06

```
#!/bin/bash

a=0
b=1
sum=0
count=10

for ((i=0; i<count; i++))
do
    sum=$((sum + a))
    next=$((a + b))
    a=$b
    b=$next

done
echo "the sum of the first 10 fibonacci numbers is: $sum"
```

ANSWER TO THE QUESTION NO-07

```
#!/bin/bash
echo "Enter a number:"
read num

factorial=1

if [ $num -lt 0 ]; then
    echo "Factorial is not defined for negative numbers."
else
    for ((i=1; i<=num; i++))
    do
        factorial=$((factorial * i))
    done
    echo "The factorial of $num is: $factorial"
fi
```

ANSWER TO THE QUESTION NO-8

```
#!/bin/bash
file="info.txt"
if [ -f "$file" ]; then
    head -n 10 "$file"
else
    echo "File $file does not exist"
fi
```

ANSWER TO THE QUESTION NO-09

```
#!/bin/bash
arr=("apple" "banana" "apple" "orange" "banana" "grape")
unique=()
for item in "${arr[@]}"; do
    if [[ ! "${unique[@]}" =~ "${item}" ]]; then
        unique+=("$item")
    fi
done
count=${#unique[@]}
echo "The number of unique elements is: $count"
```

ANSWER TO THE QUESTION NO-10

```
#!/bin/bash
file="data.txt"
if [ -f "$file" ]; then
    tail -n 5 "$file"
else
    echo "File $file does not exist."
fi
```

ANSWER TO THE QUESTION No -11

```
#!/bin/bash
file="output.txt"
pattern="INFO"

if [-f "$file" ]; then
    count=$(grep -o "$pattern" "$file" | wc -l)
    echo "The pattern '$pattern' appears $count times in
        $file."

else
    echo "File $file does not exist."
fi.
```

ANSWER TO THE QUESTION No -12

```
#!/bin/bash
file="log.txt"
if [ -f "$file" ]; then
    tac "$file" > temp-file && mv temp-file "$file"
    echo "The order of lines in $file has been reversed."
else
    echo "The file does not exists."
fi.
```

ANSWER TO THE QUESTION No -13

```
#!/bin/bash
file="priority"
if [-f "$file" ]; then
    grep "$pattern" "$file"
else
    echo "File $file does not exist"
fi
```

ANSWER TO THE QUESTION No-14

```
#!/bin/bash
echo "Enter a number N:"
read N
product=1
term=1
for (( i=1; i<=N; i++)); do
    product=$(( product * term))
    term = $((term * 10+1))
done
echo "The product of the series is: $product"
```

ANSWER TO THE QUESTION NO-15

```
#!/bin/bash
echo "Enter a number N:"
read N
product=1
term=10
for (( i=1; i<=N, i++)); do
    product = $(( product * term))
    term= $(( term * 10 ))
done
echo "The product of the series is : $product"
```

ANSWER TO THE QUESTION NO-16

```
#!/bin/bash
arr=(12 45 67 34 89 23 56)
largest=${arr[0]}
for num in "${arr[@]}"
do
    if [ $num -gt $largest ]; then
        largest=$num
    fi
done
echo "The largest element in the array is : $largest"
```

ANSWER TO THE QUESTION NO-17

```
#!/bin/bash
numbers=(2 4 6 8 10)
total=0
for number in "${numbers[@]}"
do
    square=$(( number * number ))
    total=$(( total + square ))
done
echo "The sum of squares is : $total"
```

ANSWER TO THE QUESTION NO-18

```
#!/bin/bash
file="task.tmp"
word="completed"
if grep -q "$word" "$file"; then
    echo "found"
else echo "Not found"
fi
```

ANSWER TO THE QUESTION No - 19

```
#!/bin/bash
file="names.txt"
if [-f "$file"]; then
    while IFS= read -r line
    do
      names=($line)
      echo "${names[2]}, ${names[1]}. ${names[0]}"
    done < "$file"
else
    echo "File $file does not exist."
fi.
```

ANSWER TO THE QUESTION No. 20

```
#!/bin/bash
echo "Enter the word to search for:"
read word.
file="notes.txt"
if [ -f "$file" ]; then.
    count=$(grep -o -i "$word" "$file" | wc -l)
    echo "The word '$word' appears $count times in
          $file"

else
    echo "File $file does not exists."

fi.
```

ANSWER TO THE QUESTION NO-4

```
#!/bin/bash
file='log.txt'
if [-f "$file" ]; then
    grep -v '^[[:space:]]*$' "$file" > temp-file && mv temp-file
        "$file"
    echo "All blanck lines have been removede from
        $file'

else
    echo "File does not exist'
fi
```

ANSWER TO THE QUESTION NO-2

```
#!/bin/bash
echo "Enter the filenames ( seperated by spaces):"
read -a filenames
for file in "${filenames[@]}"
do
    if [ -f "$file" ]; then
        echo "Sorted contents of $file"
        sort "$file"
        echo "..........."
    else
        echo "The file does not exist"
    fi
done
```

ANSWER TO THE QUESTION NO -25

```
#!/bin/bash
file="data.txt"
if [-f "$file"]; then
    size=$(stat --format="%s" "$file")
    echo "The size of $file is $size bytes"
else
    echo "file $file does not exist."
fi
```

ANSWER TO THE QUESTION NO. 26

```
#!/bin/bash
echo "Enter elements of the array"
read -a numbers
sum=0
for num in "${numbers[@]}"
do
   if [ $num -gt 10 ]; then
       sum=$((sum+num))
   fi
done
echo "The sum of numbers greater than 10 is: $sum"
```

ANSWER TO THE QUESTION NO. 25

```
#!/bin/bash
echo "Enter your full name:"
read first_name last_name
echo "First Name: $first_name"
echo "Last Name: $last_name"
```

ANSWER TO THE QUESTION NO. 26

```
#!/bin/bash
echo "Enter the word to find:"
read find_word
echo "Enter the word to replace it with:"
read replace_word
file="document.txt"
if [ -f "$file" ]; then
    sed -i "s/$find_word/$replace_word/g" "$file"
    echo "Replaced all occurrences of '$find_word'
    with '$replace_word' in $file."

else
    echo "File $file does not exist."

fi
```

ANSWER TO THE QUESTION No-27

```
#!/bin/bash
file="logfile.txt"
date >> "$file"
echo "Current date and time appended to $file."
```

ANSWER TO THE QUESTION No-28

```
#!/bin/bash
echo "Enter the numbers:"
read -a nums
sum=0
for n in "${nums[@]}"; do
    sum=$(echo "$sum + $n" | bc)
done
count=${#nums[@]}
if [ $count -gt 0 ]; then
    avg=$(echo "$sum / $count" | bc -l)
    echo "The average is: $avg"
else
    echo "Invalid"
fi
```

ANSWER TO THE QUESTIONS NO-29

```
#!/bin/bash
file_count=$(ls -l | grep -v '^d' | grep -c '')
dir_count=$(ls -l | grep '^d' | grep -c '')
echo "Number of files: $file_count"
echo "Number of directories: $dir_count"
```

ANSWER TO THE QUESTION NO-30

```
#!/bin/bash
sort -r data.txt
```