Shell Script

AIM:

To write a Shell script to display a basic calculator.

PROGRAM:

```bash
#!/bin/bash

while true; do
    echo "========================="
    echo "    Basic Calculator"
    echo "========================="
    echo "1. Addition"
    echo "2. Subtraction"
    echo "3. Multiplication"
    echo "4. Division"
    echo "5. Exit"
    echo -n "Choose an option (1-5): "
    read choice

    if [[ $choice -eq 5 ]]; then
        echo "Exiting Calculator. Goodbye!"
        exit 0
    fi

    echo -n "Enter first number: "
    read num1
    echo -n "Enter second number: "
    read num2

    case $choice in
        1) result=$((num1 + num2))
           echo "Result: $num1 + $num2 = $result"
           ;;
        2) result=$((num1 - num2))
           echo "Result: $num1 - $num2 = $result"
           ;;
        3) result=$((num1 * num2))
```

```
        echo "Result: $num1 * $num2 = $result"
        ;;
        if [[ $num2 -eq 0 ]]; then
            echo "Error: Division by zero is not allowed!"
        else

            result=$(awk "BEGIN {print $num1 / $num2}")
            echo "Result: $num1 / $num2 = $result"
        fi
        ;;
    *) echo "Invalid option! Please choose between 1-5."
        ;;
    esac
    echo "---------------------------"
    echo ""
done
```

OUTPUT:


```
$ bash arithmetic_operation.sh
Enter first number:
2
Enter second number:
3
Sum: 5
Difference: -1
Product: 6
Quotient: 0
```

RESULT:

Thus, the basic calculator program was successfully implemented using shell scripting.

Ex. No: 2b
Date: 24/1/25

Shell Script

AIM:

To write a Shellscript to test given year is leap or not using conditional statement
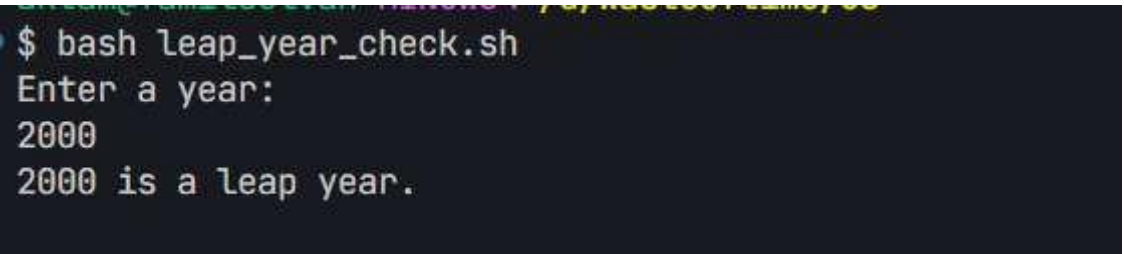
PROGRAM:

```bash
#!/bin/bash

read -p "Enter year: " year

if (( year % 4 == 0 && year % 100 != 0 )) || (( year % 400 == 0 )); then
            echo "$year is a Leap Year"
else
            echo "$year is not a Leap Year"
fi
```

OUTPUT:

```
$ bash leap_year_check.sh
Enter a year:
2000
2000 is a leap year.
```

RESULT:

Thus, the leap year program was successfully implemented using shell scripting.

Ex.no: 2.c

Shell Script – Reverse of Digit

AIM:

To write a Shell script to reverse a given digit using looping statement.
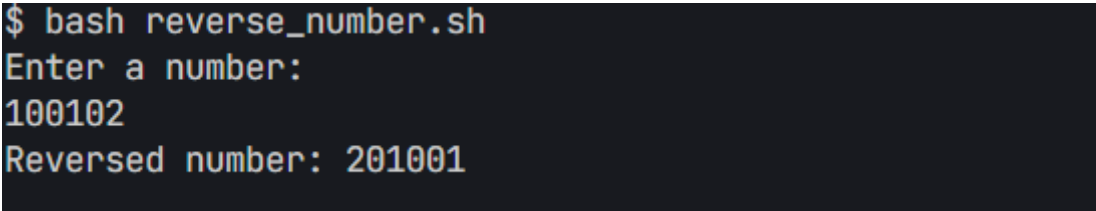
PROGRAM:

```
#!/bin/bash

read -p "Enter a

number: " num

reverse=0
while [ $num -gt 0 ]; do
        digit=$(( num %
        10 ))  reverse=$((
        reverse * 10 +
        digit )) num=$((
        num / 10 ))
done

echo "Reversed number: $reverse"
```

OUTPUT:

```
$ bash reverse_number.sh
Enter a number:
100102
Reversed number: 201001
```

RESULT:

Thus, the shell script to reverse a given digit is successfully implemented.