

OS LAB MANUAL (CS23431)

Roll No:230701254

EX.NO:2

2A)

Program:

```
echo "Welcome to the Basic Calculator"

echo "-----"

echo "Enter first number:"

read num1

echo "Enter second number:"

read num2

echo "Choose operation:"

echo "1. Addition (+)"

echo "2. Subtraction (-)"

echo "3. Multiplication (*)"

echo "4. Division (/)"

read choice

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"

;;

4)

if [ $num2 -eq 0 ]; then

    echo "Error: Division by zero is not allowed."

else

    result=$(echo "scale=2; $num1 / $num2" | bc)

    echo "Result: $num1 / $num2 = $result"

fi

;;

*)

    echo "Invalid choice. Please select from 1 to 4."
```

Input:

```
$ ./calculator.sh
Welcome to the Basic Calculator

Enter first number:
44
Enter second number:
77
Choose operation:
1. Addition (+)
2. Subtraction (-)
3. Multiplication (*)
4. Division (/)
1
```

Output:

```
Result: 44 + 77 = 121
```

2B)

Program:

```
echo -n "Enter a year: "
read year
if [ $((year % 4)) -eq 0 ] && [ $((year % 100)) -ne 0 ] ||
[ $((year % 400)) -eq 0 ]; then
    echo "$year is a leap year."
else
    echo "$year is not a leap year."
Fi
```

Input:

```
Enter a year: 2006
```

OUTPUT:

```
2006 is not a leap year.
```