_____

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

```bash
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 [ $num2 -eq 0 ]; then
      echo "Error: Division by zero is not allowed."
    else
      result=$((num1 / num2))
      echo "Result: $num1 / $num2 = $result"
    fi
    ;;
  *)
    echo "Invalid choice. Please select a valid operation.";;
```

esac

Input:

```
pranav@Pranav:~$ vi two.c
pranav@Pranav:~$ vi two.sh
pranav@Pranav:~$ sh two.sh
Welcome to the Basic Calculator
--------------------------------
Enter first number:
5
Enter second number:
10
Choose operation:
1. Addition (+)
2. Subtraction (-)
3. Multiplication (*)
4. Division (/)
3
```

OUTPUT :

```
pranav@Pranav:~$ sh two.sh
Welcome to the Basic Calculator
--------------------------------
Enter first number:
5
Enter second number:
10
Choose operation:
1. Addition (+)
2. Subtraction (-)
3. Multiplication (*)
4. Division (/)
3
Result: 5 * 10 = 50
pranav@Pranav:~$
```

2B)

PROGRAM:

```
echo "Enter a year:"
read 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
```

INPUT:

```
pranav@Pranav:~$ vi twotwo.sh
pranav@Pranav:~$ sh twotwo.sh
Enter a year: 2020
```

OUTPUT:

```
pranav@Pranav:~$ vi twotwo.sh
pranav@Pranav:~$ sh twotwo.sh
Enter a year: 2020
2020 is a leap year.
```