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Section B

1.Write a program to enter name and display as “Hello, Name”.

In [1]:
```
name=input("Enter your name :")
print("Hello,"+name)
```

```
Enter your name :Lakshay
Hello,Lakshay
```

2. Write a menu driven program to enter two numbers and print the arithmetic operations like a. + b. – c. * d. / e. // f. %.

In [2]:
```
# Define a function for each arithmetic operation
def add(a, b):
    return a + b

def subtract(a, b):
    return a - b

def multiply(a, b):
    return a * b

def divide(a, b):
    return a / b

def floor_divide(a, b):
```

```
    return a // b

def modulus(a, b):
    return a % b

# Main program loop
while True:
    # Display the menu options
    print("1. Add")
    print("2. Subtract")
    print("3. Multiply")
    print("4. Divide")
    print("5. Floor Division")
    print("6. Modulus")
    print("7. Exit")

    # Ask the user to choose an option
    choice = int(input("Enter your choice: "))

    # If the user chooses to exit, break the loop
    if choice == 7:
        break

    # Ask the user to enter two numbers
    num1 = float(input("Enter first number: "))
    num2 = float(input("Enter second number: "))

    # Perform the selected operation
    if choice == 1:
        print(num1, "+", num2, "=", add(num1, num2))
    elif choice == 2:
        print(num1, "-", num2, "=", subtract(num1, num2))
    elif choice == 3:
        print(num1, "*", num2, "=", multiply(num1, num2))
    elif choice == 4:
        print(num1, "/", num2, "=", divide(num1, num2))
    elif choice == 5:
        print(num1, "//", num2, "=", floor_divide(num1, num2))
    elif choice == 6:
        print(num1, "%", num2, "=", modulus(num1, num2))
    else:
        print("Invalid choice")
```

```
1. Add
2. Subtract
3. Multiply
4. Divide
5. Floor Division
6. Modulus
7. Exit
Enter your choice: 5
Enter first number: 44
Enter second number: 33
44.0 // 33.0 = 1.0
1. Add
2. Subtract
3. Multiply
4. Divide
5. Floor Division
6. Modulus
7. Exit
Enter your choice: 6
Enter first number: 33
Enter second number: 10
33.0 % 10.0 = 3.0
1. Add
2. Subtract
3. Multiply
4. Divide
5. Floor Division
6. Modulus
7. Exit
Enter your choice: 7
```

3. Write a program to compute the roots of a quadratic equation.

In [3]:

```
import cmath
a=float(input("Enter a "))
b=float(input("Enter b "))
c=float(input("Enter c "))
print("Quadratic euqation is : ",a,"x^2",b,"x",c)
d = pow(b,2) - (4*a*c)

# find two solutions
```

```
sol1 = (-b-cmath.sqrt(d))/(2*a)
sol2 = (-b+cmath.sqrt(d))/(2*a)
print("Roots are :",sol1," and ",sol2)
```

```
Enter a 3
Enter b 4
Enter c 5
Quadratic euqation is :  3.0 x^2 4.0 x 5.0
Roots are : (-0.6666666666666666-1.1055415967851332j)  and  (-0.6666666666666666+1.1055415967851332j)
```

4. Write a menu driven Program to reverse the entered numbers and print the sum of digits entered.

In [4]:

```
# Define a function to reverse a number
def reverse_number(num):
    rev = 0
    while num > 0:
        digit = num % 10
        rev = rev * 10 + digit
        num = num // 10
    return rev

# Define a function to calculate the sum of digits in a number
def sum_of_digits(num):
    sum = 0
    while num > 0:
        digit = num % 10
        sum += digit
        num = num // 10
    return sum

# Main program loop
while True:
    # Display the menu options
    print("1. Reverse the number")
    print("2. Calculate the sum of digits")
    print("3. Exit")

    # Ask the user to choose an option
    choice = int(input("Enter your choice: "))
```

```
    # If the user chooses to exit, break the loop
    if choice == 3:
        break

    # Ask the user to enter a number
    num = int(input("Enter a number: "))

    # Perform the selected operation
    if choice == 1:
        rev = reverse_number(num)
        print("Reverse of", num, "is", rev)
    elif choice == 2:
        sum = sum_of_digits(num)
        print("Sum of digits in", num, "is", sum)
    else:
        print("Invalid choice")
```

```
1. Reverse the number
2. Calculate the sum of digits
3. Exit
Enter your choice: 1
Enter a number: 3344556
Reverse of 3344556 is 6554433
1. Reverse the number
2. Calculate the sum of digits
3. Exit
Enter your choice: 2
Enter a number: 234335
Sum of digits in 234335 is 20
1. Reverse the number
2. Calculate the sum of digits
3. Exit
Enter your choice: 3
```

In [ ]: