

```
In [2]: a=int(input("enter the value for a:"))
b=int(input("enter the value for b:"))
c=a+b
d=a-b
e=a*b
f=a/b
g=a%b
print("addition of two numbers:",c)
print("subtraction of two numbers:",d)
print("multiplication of two numbers:",e)
print("division of two numbers:",f)
print("modulo of two numbers:",g)
```

```
enter the value for a:5
enter the value for b:4
addition of two numbers: 9
subtraction of two numbers: 1
multiplication of two numbers: 20
division of two numbers: 1.25
modulo of two numbers: 1
```

```
In [3]: a=int(input("enter a value for a:"))
b=int(input("enter a value for b:"))
c=int(input("enter a value for c:"))
max_number=max(a,b,c)
print("maximum number:",max_number)
```

```
enter a value for a:40
enter a value for b:60
enter a value for c:50
maximum number: 60
```

```
In [5]: import math
a = float(input("Enter coefficient a: "))
b = float(input("Enter coefficient b: "))
c = float(input("Enter coefficient c: "))
disc = b**2 - 4*a*c
if disc > 0:
    root1 = (-b + math.sqrt(disc)) / (2*a)
    root2 = (-b - math.sqrt(disc)) / (2*a)
    print("root1=",root1,"root2=",root2)
elif disc == 0:
    root1 = root2 = -b / (2*a)
    print("root1=root2=",root1)
else:
    real_part = -b / (2*a)
    imaginary_part = math.sqrt(abs(disc)) / (2*a)
    print("root1=",real_part,"+",imaginary_part)
    print("root2=",real_part,"-",imaginary_part)
```

Enter coefficient a: 2

Enter coefficient b: 4

Enter coefficient c: 1

root1= -0.2928932188134524 root2= -1.7071067811865475

```
In [6]: num=int(input("enter the number:"))
        flag=False
        if num==1:
            print(num,"is not a prime number")
        elif num>1:
            for i in range(2,num):
                if(num%i)==0:
                    flag=True
                    break;
            if flag:
                print(num,"is not a prime number")
            else:
                print(num,"is prime number")
```

enter the number:29  
29 is prime number

```
In [2]: string = input("Enter a string: ")
        char = input("Enter a character to search: ")
        found = False
        for i in range(len(string)):
            if string[i] == char:
                print(f"Character found at index {i}")
                found = True
        if not found:
            print("Character not found in the string.")
```

Enter a string: good morning  
Enter a character to search: m  
Character found at index 5

In [ ]:

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In [4]: yr=int(input("enter the year:"))
        if(yr%4==0 and yr%100 !=0) or (yr%400==0):
            print(yr,"is a leap year")
        else:
            print(yr,"is not leap year")
```

```
enter the year:2003
2003 is not leap year
```

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In [ ]:
```

```
In [7]: import math

        a=int(input("enter a value for a:"))
        b=int(input("enter a value for b:"))
        gcd = math.gcd(a,b)
        print("gcd of two numbers:",gcd)
```

```
enter a value for a:54
enter a value for b:24
gcd of two numbers: 6
```

```
In [8]: class Complex:
        def __init__(self, real, imag):
            self.real = real
            self.imag = imag

        def __add__(self, other):
            real_part = self.real + other.real
            imag_part = self.imag + other.imag
            return Complex(real_part, imag_part)

def add_complex_numbers(complex_numbers):
    result = Complex(0, 0)
    for num in complex_numbers:
        result += num
    return result

# Input the number of complex numbers (N)
N = int(input("Enter the number of complex numbers (N >= 2): "))
if N < 2:
    print("N should be greater than or equal to 2.")
else:
    complex_numbers = []

    # Input N complex numbers
    for i in range(N):
        real = float(input(f"Enter the real part of complex number {i + 1}: "))
        imag = float(input(f"Enter the imaginary part of complex number {i + 1}: "))
        complex_numbers.append(Complex(real, imag))

    # Compute the addition of N complex numbers
    result = add_complex_numbers(complex_numbers)

    # Display the result
    print(f"The sum of the {N} complex numbers is: {result.real} + {result.imag}i")
```

```
Enter the number of complex numbers (N >= 2): 2
Enter the real part of complex number 1: 5
Enter the imaginary part of complex number 1: 6
Enter the real part of complex number 2: 2
Enter the imaginary part of complex number 2: 4
The sum of the 2 complex numbers is: 7.0 + 10.0i
```

```
In [9]: class Student:
        def __init__(self, name, marks1, marks2, marks3):
            self.name = name
            self.marks1 = marks1
            self.marks2 = marks2
            self.marks3 = marks3

        def calculate_total(self):
            return self.marks1 + self.marks2 + self.marks3
        def calculate_percentage(self):
            total = self.calculate_total()
            return (total / 300) * 100
name = input("Enter student name: ")
marks = list(map(float, input("Enter marks in subject 1, 2 and 3: ").split(' ')))
student = Student(name, marks[0], marks[1], marks[2])
total_marks = student.calculate_total()
percentage = student.calculate_percentage()
print(f"Total marks: {total_marks}\nPercentage: {percentage: 0.3f}")
```

```
Enter student name: Harshitha
Enter marks in subject 1, 2 and 3: 40 50 60
Total marks: 150.0
Percentage: 50.000
```

```
In [10]: class BankAccount:
    def __init__(self, balance=0):
        self.balance = balance

    def deposit(self, amount):
        self.balance += amount
        self.display_balance()
    def withdraw(self, amount):
        if self.balance >= amount:
            self.balance -= amount
        else:
            print("Insufficient balance")
            self.display_balance()
    def display_balance(self):
        print("Current Balance: Rs.", self.balance)
account = BankAccount()
account.deposit(1000)
account.withdraw(500)
account.display_balance()
```

Current Balance: Rs. 1000  
Current Balance: Rs. 500  
Current Balance: Rs. 500

In [ ]: