Modules

def add\_matrix():

    row\_1 = int(input("Enter number of rows for first matrix: "))

    col\_1 = int(input("Enter number of columns for first matrix: "))

    print("Enter the elements of First Matrix:")

    matrix\_1= [[int(input()) for i in range(col\_1)] for i in range(row\_1)]

    print("First Matrix is: ")

    for n in matrix\_1:

        print(n)

    row\_2 = int(input("Enter number of rows for second matrix: "))

    col\_2 = int(input("Enter number of columns for second matrix: "))

    print("Enter the elements of Second Matrix:")

    matrix\_2 = [[int(input()) for i in range(col\_2)] for i in range(row\_2)]

    for n in matrix\_2:

        print(n)

    result = [[0 for i in range(col\_1)] for i in range(row\_1)]

    result = [[0 for i in range(col\_2)] for i in range(row\_2)]

    if row\_1 != col\_2:

        raise ValueError("Row and columns must be the same")

    for i in range(col\_1):

        for j in range(row\_2):

            result[i][j] = matrix\_1[i][j] + matrix\_2[i][j]

    print("The Addition of Above two Matrices is : ")

    for r in result:

        print(r)

def sub\_matrix():

    row\_1 = int(input("Enter number of rows for first matrix: "))

    col\_1 = int(input("Enter number of columns for first matrix: "))

    print("Enter the elements of First Matrix:")

    matrix\_1= [[int(input()) for i in range(col\_1)] for i in range(row\_1)]

    print("First Matrix is: ")

    for n in matrix\_1:

        print(n)

    row\_2 = int(input("Enter number of rows for second matrix: "))

    col\_2 = int(input("Enter number of columns for second matrix: "))

    print("Enter the elements of Second Matrix:")

    matrix\_2 = [[int(input()) for i in range(col\_2)] for i in range(row\_2)]

    for n in matrix\_2:

        print(n)

    result = [[0 for i in range(col\_1)] for i in range(row\_1)]

    result = [[0 for i in range(col\_2)] for i in range(row\_2)]

    if row\_1 != col\_2:

        raise ValueError("Row and columns must be the same")

    for i in range(col\_1):

        for j in range(row\_2):

            result[i][j] = matrix\_1[i][j] - matrix\_2[i][j]

    print("The Subtraction of Above two Matrices is : ")

    for r in result:

        print(r)

def mul\_matrix():

    row\_1 = int(input("Enter number of rows for first matrix: "))

    col\_1 = int(input("Enter number of columns for first matrix: "))

    print("Enter the elements of First Matrix:")

    matrix\_1= [[int(input()) for i in range(col\_1)] for i in range(row\_1)]

    print("First Matrix is: ")

    for n in matrix\_1:

        print(n)

    row\_2 = int(input("Enter number of rows for second matrix: "))

    col\_2 = int(input("Enter number of columns for second matrix: "))

    print("Enter the elements of Second Matrix:")

    matrix\_2 = [[int(input()) for i in range(col\_2)] for i in range(row\_2)]

    for n in matrix\_2:

        print(n)

    result = [[0 for i in range(col\_1)] for i in range(row\_1)]

    result = [[0 for i in range(col\_2)] for i in range(row\_2)]

    if row\_1 != col\_2:

        raise ValueError("Row and columns must be the same")

    for i in range(len(matrix\_1)):

        for j in range(col\_2):

            for k in range(row\_2):

                result[i][j] += matrix\_1[i][k] \* matrix\_2[k][j]

    print("The Multiplication of Above two Matrices is : ")

    for r in result:

        print(r)

Using modules

import module

def main():

    option = int(input("Choose 1-Addition, 2-Multiplication or 3-Subtraction of Matrix: "))

    if option == 1:

        module.add\_matrix()

    elif option == 2:

        module.mul\_matrix()

    elif option == 3:

        module.sub\_matrix()

    else:

        raise ValueError("Unknown option %d" % option)

    return

if \_\_name\_\_ == '\_\_main\_\_':

    main()



