```
==========================================MATRIX CALCULATOR==========================================
Enter your choice :
1.ADD
2.SUBTRACTION
3.MULTIPLY
4.TRANSPOSE
5.INVERSE
6.ORTHOGONAL
7.EXIT
Enter choice number : 1

ADDITION
ENTER THE NUMBER OF MATRICES TO OPERATE ON (2 or 3): 2

ENTER THE NUMBER OF COLUMNS & ROWS FOR MATRIX 1 (use 2X2 or 3X3)

Enter Number of rows for matrix 1 : 2
Enter number of columns for matrix 1 : 2
Enter element : 1
Enter element : 2
Enter element : 3
Enter element : 4

ENTER THE NUMBER OF COLUMNS & ROWS FOR MATRIX 2

Enter Number of rows for matrix 2 : 2
Enter number of columns for matrix 2 : 2
Enter element : 1
Enter element : 2
```

```
ENTER THE NUMBER OF COLUMNS & ROWS FOR MATRIX 1 (use 2X2 or 3X3)

Enter Number of rows for matrix 1 : 2
Enter number of columns for matrix 1 : 2
Enter element : 1
Enter element : 2
Enter element : 3
Enter element : 4

ENTER THE NUMBER OF COLUMNS & ROWS FOR MATRIX 2

Enter Number of rows for matrix 2 : 2
Enter number of columns for matrix 2 : 2
Enter element : 1
Enter element : 2
Enter element : 3
Enter element : 4
MATRIX 1 :
[1 2]
[3 4]
MATRIX 2 :
[1 2]
[3 4]
SUM OF TWO MATRICES :
[2 4]
[6 8]
--------------------------------------------------------------------------------------------------------------
>>>
```

```
==========================================MATRIX CALCULATOR==========================================
Enter your choice :
1.ADD
2.SUBTRACTION
3.MULTIPLY
4.TRANSPOSE
5.INVERSE
6.ORTHOGONAL
7.EXIT
Enter choice number : 2

SUBRACTION
ENTER THE NUMBER OF MATRICES TO OPERATE ON (2 or 3): 3

ENTER THE NUMBER OF COLUMNS & ROWS FOR MATRIX 1

Enter Number of rows for matrix 1 : 2
Enter number of columns for matrix 1 : 2
Enter element : 1
Enter element : 3
Enter element : 4
Enter element : 2

ENTER THE NUMBER OF COLUMNS & ROWS FOR MATRIX 2

Enter Number of rows for matrix 2 : 2
Enter number of columns for matrix 2 : 2
Enter element : 4
Enter element : 3
```

```
Enter Number of rows for matrix 2 : 2
Enter number of columns for matrix 2 : 2
Enter element : 4
Enter element : 3
Enter element : 4
Enter element : 2

ENTER THE NUMBER OF COLUMNS & ROWS FOR MATRIX 3

Enter Number of rows for matrix 3 : 2
Enter number of columns for matrix 3 : 2
Enter element : 3
Enter element : 4
Enter element : 5
Enter element : 7
MATRIX 1 :
[1 3]
[4 2]
MATRIX 2 :
[4 3]
[4 2]
MATRIX 3 :
[3 4]
[5 7]
DIFFERENCE OF 3 MATRICES :
[-6 -4]
[-5 -7]
```

```
=========================================MATRIX CALCULATOR=========================================
Enter your choice :
1.ADD
2.SUBTRACTION
3.MULTIPLY
4.TRANSPOSE
5.INVERSE
6.ORTHOGONAL
7.EXIT
Enter choice number : 3

MULTIPLY
ENTER THE NUMBER OF MATRICES TO OPERATE ON (2 or 3): 2

ENTER THE NUMBER OF COLUMNS & ROWS FOR MATRIX 1

Enter Number of rows for matrix 1 : 2
Enter number of columns for matrix 1 : 2
Enter element : 3
Enter element : 4
Enter element : 3
Enter element : 2

ENTER THE NUMBER OF COLUMNS & ROWS FOR MATRIX 2.

Enter Number of rows for matrix 2 : 2
Enter number of columns for matrix 2 : 2
Enter element : 3
Enter element : 5
```

```
ENTER THE NUMBER OF MATRICES TO OPERATE ON (2 or 3): 2

ENTER THE NUMBER OF COLUMNS & ROWS FOR MATRIX 1

Enter Number of rows for matrix 1 : 2
Enter number of columns for matrix 1 : 2
Enter element : 3
Enter element : 4
Enter element : 3
Enter element : 2

ENTER THE NUMBER OF COLUMNS & ROWS FOR MATRIX 2.

Enter Number of rows for matrix 2 : 2
Enter number of columns for matrix 2 : 2
Enter element : 3
Enter element : 5
Enter element : 3
Enter element : 4
MATRIX 1 :
[3 4]
[3 2]
MATRIX 2 :
[3 5]
[3 4]
MULTIPLICATION OF TWO MATRICES :
[21 31]
[15 23]
--------------------------------------------------------------------------------
```

```
==========================================MATRIX CALCULATOR==========================================
Enter your choice :
1.ADD
2.SUBTRACTION
3.MULTIPLY
4.TRANSPOSE
5.INVERSE
6.ORTHOGONAL
7.EXIT
Enter choice number : 4

TRANSPOSE
ENTER THE NUMBER OF MATRICES TO OPERATE ON (1 at a time): 1

ENTER THE NUMBER OF COLUMNS & ROWS FOR MATRIX

Enter Number of rows for matrix : 3
Enter number of columns for matrix : 3
Enter element : 1
Enter element : 2
Enter element : 3
Enter element : 4
Enter element : 5
Enter element : 6
Enter element : 7
Enter element : 8
Enter element : 9
GIVEN MATRIX :
[1 2 3]
```

```
7.EXIT
Enter choice number : 4

TRANSPOSE
ENTER THE NUMBER OF MATRICES TO OPERATE ON (1 at a time): 1

ENTER THE NUMBER OF COLUMNS & ROWS FOR MATRIX

Enter Number of rows for matrix : 3
Enter number of columns for matrix : 3
Enter element : 1
Enter element : 2
Enter element : 3
Enter element : 4
Enter element : 5
Enter element : 6
Enter element : 7
Enter element : 8
Enter element : 9
GIVEN MATRIX :
[1 2 3]
[4 5 6]
[7 8 9]
TRANSPOSE OF THE GIVEN MATRIX :
[1 4 7]
[2 5 8]
[3 6 9]
--------------------------------------------------------------------------------------------------------------
>>>
```

```
==========================================MATRIX CALCULATOR==========================================
Enter your choice :
1.ADD
2.SUBTRACTION
3.MULTIPLY
4.TRANSPOSE
5.INVERSE
6.ORTHOGONAL
7.EXIT
Enter choice number : 5

INVERSE
ENTER THE NUMBER OF MATRICES TO OPERATE ON (1 at a time): 1

ENTER THE NUMBER OF COLUMNS & ROWS FOR MATRIX

Enter Number of rows for matrix 1 (only square matrix): 3
Enter number of columns for matrix 1 : 3
Enter element : 2
Enter element : 3
Enter element : 2
Enter element : 1
Enter element : 3
Enter element : 2
Enter element : 1
Enter element : 2
Enter element : 3
GIVEN MATRIX :
[2 3 2]
```

```
6.ORTHOGONAL
7.EXIT
Enter choice number : 5

INVERSE
ENTER THE NUMBER OF MATRICES TO OPERATE ON (1 at a time): 1

ENTER THE NUMBER OF COLUMNS & ROWS FOR MATRIX

Enter Number of rows for matrix 1 (only square matrix): 3
Enter number of columns for matrix 1 : 3
Enter element : 2
Enter element : 3
Enter element : 2
Enter element : 1
Enter element : 3
Enter element : 2
Enter element : 1
Enter element : 2
Enter element : 3
GIVEN MATRIX :
[2 3 2]
[1 3 2]
[1 2 3]
INVERSE OF THE GIVEN MATRIX :
[ 1. -1.  0.]
[-0.2  0.8 -0.4]
[-0.2 -0.2  0.6]
--------------------------------------------------------------------------------------------------------------
```

```
========== RESTART: C:\Users\Sanjay\...
==========================================MATRIX CALCULATOR==========
Enter your choice :
1.ADD
2.SUBTRACTION
3.MULTIPLY
4.TRANSPOSE
5.INVERSE
6.ORTHOGONAL
7.EXIT
Enter choice number : 6

ORTHOGONAL
ENTER THE NUMBER OF MATRICES TO OPERATE ON (1 at a time): 1

ENTER THE NUMBER OF COLUMNS & ROWS FOR MATRIX

Enter Number of rows for matrix : 2
Enter number of columns for matrix : 2
Enter element : 0
Enter element : -1
Enter element : 2
Enter element : 1
GIVEN MATRIX :
[ 0 -1]
[2 1]
It is NOT AN ORTHOGONAL MATRIX
------------------------------------------------------------------------------------------------------------------------
>>>
```

```
ENTER THE NUMBER OF MATRICES TO OPERATE ON (1 at a time): 1

ENTER THE NUMBER OF COLUMNS & ROWS FOR MATRIX

Enter Number of rows for matrix : 2
Enter number of columns for matrix : 2
Enter element : 0
Enter element : -1
Enter element : 2
Enter element : 1
GIVEN MATRIX :
[ 0 -1]
[2 1]
It is NOT AN ORTHOGONAL MATRIX
------------------------------------------------------------------------------------------------------------

============ RESTART: C:\Users\sanja\OneDrive\Desktop\Projects\Matrix_Calc_pro\Matrix Cal.py ============
=========================================MATRIX CALCULATOR=========================================
Enter your choice :
1.ADD
2.SUBTRACTION
3.MULTIPLY
4.TRANSPOSE
5.INVERSE
6.ORTHOGONAL
7.EXIT
Enter choice number : 7
-----------------------------------------------THANK YOU-----------------------------------------------
```