```
print("****Matrix Manupulation****")
r1=int(input("Enter the no of rows:"))
c1=int(input("Enter the no of columns:"))
def m1():
    global m11
    m11=[]
    print("Enter the values in rowwise:")
    for i in range(r1):
        a=[]
        for j in range(c1):
            a.append(int(input()))
        m11.append(a)
    for i in range(r1):
        for j in range(c1):
            print(m11[i][j],end=" ")
        print()
m1()
print("Enter the values for 2nd matrix:")
r2=int(input("Enter the no of rows:"))
c2=int(input("Enter the no of columns:"))
def m2():
    global m22
    m22=[]
    print("Enter the values in rowwise:")
    for i in range(r2):
        b=[]
```

```
        for j in range(c2):
            b.append(int(input()))
        m22.append(b)
    for i in range(r2):
        for j in range(c2):
            print(m22[i][j],end=" ")
        print()
m2()
if (r1==r2) and (c1==c2):

    print("Addition of given matrix is:")
    output=[[0 for i in range (c2)] for j in range(r1)]
    for i in range(r1):
        for j in range(c2):
            output[i][j]=m11[i][j]+m22[i][j]
    for i in range(r1):
        for j in range(c2):
            print(output[i][j]," ", end=" ")
        print()
    print()
    print("Subtraction of given matrix is:")
    output=[[0 for i in range(c2)]for j in range(r1)]
    for i in range(r1):
        for j in range(c2):
            output[i][j]=m11[i][j]-m22[i][j]
    for i in range(r1):
```

```
        for j in range(c2):
            print(output[i][j]," ",end=" ")
        print()
    print()
else:
    print("Matrix cant be added or subtracted")
if (c1==r2):
    print("Multiplication of matrix")
    result=[[0 for i in range(c2)]for j in range(r1)]
    for i in range(len(m11)):
        for j in range(len(m22[0])):
            for k in range(len(m22)):
                result[i][j]+=m11[i][k]*m22[k][j]
    for r in result:
        print(r)
else:
    print("Matrix can't be multiplied")


print("Transpose of Matrix ONE-")


ans=[[0 for j in range(r1)]for i in range(c1)]
for i in range(c1):
    for j in range(r1):
        ans[i][j] = m11[j][i]
        print(ans[i][j]," ",end=" ")
    print()
```

```
print()
```

OUTPUT

```
****Matrix Manupulation****
Enter the no of rows:2
Enter the no of columns:2
Enter the values in rowwise:
1
2
5
6
1 2
5 6
Enter the values for 2nd matrix:
Enter the no of rows:2
Enter the no of columns:2
Enter the values in rowwise:
1
```

6

8

4

1 6

8 4

Addition of given matrix is:

2 8

13 10

Subtraction of given matrix is:

0 -4

-3 2

Multiplication of matrix

[17, 14]

[53, 54]

Transpose of Matrix ONE-

1 5

2 6