```
linuxmint@jc0499:~/Desktop/ARGHA$ gcc 7.c
linuxmint@jc0499:~/Desktop/ARGHA$ ./a.out
Enter number of rows: 2
Enter number of cols: 2
Enter number for arr[0][0]: 1
Enter number for arr[0][1]: 2
Enter number for arr[1][0]: 3
Enter number for arr[1][1]: 4
Your 2D matrix as follows
1 2
3 4
linuxmint@jc0499:~/Desktop/ARGHA$
```

```
linuxmint@jc0499:~/Desktop/ARGHA$ ./a.out
Enter number of rows: 3
Enter number of cols: 3
Enter number for arr[0][0]: 1
Enter number for arr[0][1]: 2
Enter number for arr[0][2]: 0
Enter number for arr[1][0]: 0
Enter number for arr[1][1]: 0
Enter number for arr[1][2]: 3
Enter number for arr[2][0]: 4
Enter number for arr[2][1]: 0
Enter number for arr[2][2]: 0
The Sparse Matrix is as follows
0 0 1 2
0 1 2 0
1 2 3 4
The Transpose Sparse Matrix is as follows
0 0 1
0 1 2
1 2 3
2 0 4
linuxmint@jc0499:~/Desktop/ARGHA$
```

```
linuxmint@jc0499:~/Desktop/ARGHA$ ./a.out
Enter number of rows: 3
Enter number of cols: 3
Enter number for arr[0][0]: 1
Enter number for arr[0][1]: 2
Enter number for arr[0][2]: 0
Enter number for arr[1][0]: 0
Enter number for arr[1][1]: 0
Enter number for arr[1][2]: 5
Enter number for arr[2][0]: 6
Enter number for arr[2][1]: 0
Enter number for arr[2][2]: 0
0 0 1 2
0 1 2 0
1 2 5 6
linuxmint@jc0499:~/Desktop/ARGHA$
```

```
linuxmint@jc0499:~/Desktop/ARGHA$ ./a.out
Enter number of rows: 2
Enter number of cols: 2
Enter number for arr1[0][0]: 1
Enter number for arr1[0][1]: 2
Enter number for arr1[1][0]: 3
Enter number for arr1[1][1]: 4
Enter number of rows: 2
Enter number of cols: 2
Enter number for arr1[0][0]: 5
Enter number for arr1[0][1]: 6
Enter number for arr1[1][0]: 7
Enter number for arr1[1][1]: 8
The multiplication is as follows
19 22
43 50
linuxmint@jc0499:~/Desktop/ARGHA$
```