1.WAP to read n elements into 2D array and find the transpose of a matrix

	0	1	2
0	1	2	3
1	4	5	6

Trasnpose Matrix

1	4
2	5
3	6

Program

```
#include <stdio.h>
void main()
{
   int a[10][10],t[10][10],m,n,i,j;
   printf("Enter Array Size:");
   scanf("%d%d",&m,&n);

   printf("Enter %d Elements:",m*n);
   for(i=0;i<m;i++)
      for(j=0;j<n;j++)
      scanf("%d",&a[i][j]);

   for(i=0;i<m;i++)
      for(j=0;j<n;j++)
         t[j][i]=a[i][j];

   printf("Transpose of a Matrix Is:\n");
   for(i=0;i<n;i++){
      for(j=0;j<m;j++)
         printf("%5d",t[i][j]);
         printf("\n");

   }
```

2.WAP to read n elements into 2D array and find it is symmetric matrix or not

1	2	3
2	5	7
3	7	9

rows --> 1,2,3,2,5,7,3,7,9

cols -- > 1,2,3,2,5,7,3,7,9

Program

```
#include <stdio.h>
```

```
void main()
{
   int a[10][10],m,n,i,j,flag=0;
   printf("Enter Array Size:");
   scanf("%d%d",&m,&n);

   printf("Enter %d Elements:",m*n);
   for(i=0;i<m;i++)
      for(j=0;j<n;j++)
      scanf("%d",&a[i][j]);

   for(i=0;i<m;i++)
      for(j=0;j<n;j++)
         {
         if(a[i][j]!=a[j][i])
            flag=0;
      }
      if(flag==1)
         printf("It is Symmetric Matrix");
      else
         printf("it is assymnetric");


   }
```

Output 1:

```
Enter Array Size:3 3
Enter 9 Elements:
1 2 3
2 5 7
3 7 9
It is Symmetric Matrix
```

```
}
```