C 40_q79.c > main()

```c
// Q79: Perform diagonal traversal of a matrix.

/*
Sample Test Cases:
Input 1:
3 3
1 2 3
4 5 6
7 8 9
Output 1:
1 2 4 7 5 3 6 8 9

*/

#include<stdio.h>
int main(){
int r,c,i,j,k;
scanf("%d%d",&r,&c);
int a[r][c];
for(i=0;i<r;i++)
for(j=0;j<c;j++)
scanf("%d",&a[i][j]);
for(k=0;k<r+c-1;k++){
for(i=0;i<r;i++){
j=k-i;
if(j>=0&&j<c)printf("%d ",a[i][j]);
}
}
return 0;
}
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\drago\OneDrive\Desktop\C H.W> gcc .\40_q79.c
PS C:\Users\drago\OneDrive\Desktop\C H.W> ./a.exe
3 3
1 2 3
4 5 6
7 8 9
1 2 4 3 5 7 6 8 9
PS C:\Users\drago\OneDrive\Desktop\C H.W>
```

C 40_q80.c > main()

```c
// Q80: Multiply two matrices.

/*
Sample Test Cases:
Input 1:
2 3
1 2 3
4 5 6
3 2
7 8
9 10
11 12
Output 1:
58 64
139 154

*/

#include<stdio.h>
int main(){
int r1,c1,r2,c2,i,j,k;
scanf("%d%d",&r1,&c1);
int a[r1][c1];
for(i=0;i<r1;i++)
for(j=0;j<c1;j++)
scanf("%d",&a[i][j]);
scanf("%d%d",&r2,&c2);
int b[r2][c2];
for(i=0;i<r2;i++)
for(j=0;j<c2;j++)
scanf("%d",&b[i][j]);
for(i=0;i<r1;i++){
for(j=0;j<c2;j++){
int sum=0;
for(k=0;k<c1;k++)
sum+=a[i][k]*b[k][j];
printf("%d ",sum);
}
printf("\n");
}
return 0;
}
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\drago\OneDrive\Desktop\C H.W> gcc .\40_q80.c
PS C:\Users\drago\OneDrive\Desktop\C H.W> ./a.exe
2 3
1 2 3
4 5 6
3 2
7 8
9 10
11 12
58 64
139 154
PS C:\Users\drago\OneDrive\Desktop\C H.W>
```