Write a program to rotate the matrix by 90 degrees anti-clockwise.

2darray2 > assignment2.cpp > main()

```cpp
#include<iostream>
using namespace std;
int main(){
    cout<<" enter the row of matrix: ";
    int m;
    cin>>m;
    cout<<" enter the column of matrix: ";
    int n;
    cin>>n;
    int arr[m][n];
    cout<<"enter the matrix element: ";
        for(int i=0;i<=m-1;i++){
        for(int j=0;j<=n-1;j++){
            cin>>arr[i][j];
        }
    }
   for(int j=n-1;j>=0;j--){
     for(int i=0;i<=m-1;i++){
            cout<<arr[i][j]<<" ";
        }
        cout<<endl;
   }
}
```

Write a program to print the matrix in wave form.

2darray2 > assignment3.cpp > ...

```cpp
#include<iostream>
using namespace std;
int main(){
    cout<<" enter the row of matrix: ";
    int m;
    cin>>m;
    cout<<" enter the coloumn of matrix: ";
    int n;
    cin>>n;
    int arr[m][n];
    cout<<" enter the element of matrix: ";
    for(int i=0;i<=m-1;i++){
     for(int j=0;j<=n-1;j++){
         cin>>arr[i][j];
     }
    }
    for(int j=0;j<=n-1;j++){
    if(j%2==0){
    for(int i=m-1;i>=0;i--){
         cout<<arr[i][j]<<" ";
     }
    }
    else{
      for(int i=0;i<=m-1;i++){
         cout<<arr[i][j]<<" ";
      }
    }
    }
}
```

Given a positive integer n, generate a n x n matrix filled with elements from 1 to n2 in spiral order.

2darray2 > assignment4.cpp > ...

```cpp
#include<iostream>
using namespace std;
int main(){
    cout<<" enter the row of matrix: ";
    int m;
    cin>>m;
    cout<<" enter the coloumn of matrix: ";
    int n;
    cin>>n;
    int arr[m][n];
    cout<<" enter the element of matrix: ";
    for(int i=0;i<=m-1;i++){
     for(int j=0;j<=n-1;j++){
         cin>>arr[i][j];
     }
    }
    for(int i=0;i<=m-1;i++){
      for(int j=0;j<=n-1;j++){
         if(i==j || i+j==n-1){
            cout<<arr[i][j];
         }
         else{
         cout<<" ";
     }
     }
     cout<<endl;
    }
}
```

Q5. Predict the output

2darray2 > assignment5.cpp > ...

```cpp
#include<iostream>
using namespace std;
int main(){
int a[][2] = {{1,2},{3,4}};
int i, j;
for (i = 0; i < 2; i++)
for (j = 0; j < 2; j++)
cout << a[i][j];
return 0;
}
```

OUTPUT : - 1234