The spiral traversal is done by “layers” of the matrix. Four limits are maintained that define the part not yet visited: top (first row), bottom (last row), left (first column), and right (last column).

While top ≤ bottom and left ≤ right:

1. the top row is traversed from left→right and top is incremented;

2. the right column is traversed from top→bottom and right is decremented;

3. if there is a row left, the bottom row is traversed from right→left and bottom is decremented;

4. if there is a column left, the left column is traversed from bottom→top and left is incremented.

This way, we cover each element exactly once.

In the code, the matrix is already fixed, print\_matrix displays it “normally,” and spiral\_print applies the above process to print the spiral order.