# Visualization of Subgrid After Calculation

int row\_index = 3 \* (i / 3) + j / 3;

int col\_index = 3 \* (i % 3) + j % 3;

help us determine which 3×3 sub-grid an element belongs to.

### **1. row\_index = 3 \* (i / 3) + j / 3**

* i/3 gives the row number of the sub-grid (0, 1, or 2).
* Multiplying by 3 ensures that we get the starting row index of the sub-grid.
* j/3 gives the offset within the sub-grid.

### **2. col\_index = 3 \* (i % 3) + j % 3**

* i%3 gives the row offset within the sub-grid.
* j%3 gives the column offset within the sub-grid.

Sub-grid indices (row\_index, col\_index):

(0,0) (0,1) (0,2) | (1,0) (1,1) (1,2) | (2,0) (2,1) (2,2)

(0,3) (0,4) (0,5) | (1,3) (1,4) (1,5) | (2,3) (2,4) (2,5)

(0,6) (0,7) (0,8) | (1,6) (1,7) (1,8) | (2,6) (2,7) (2,8)

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(3,0) (3,1) (3,2) | (4,0) (4,1) (4,2) | (5,0) (5,1) (5,2)

(3,3) (3,4) (3,5) | (4,3) (4,4) (4,5) | (5,3) (5,4) (5,5)

(3,6) (3,7) (3,8) | (4,6) (4,7) (4,8) | (5,6) (5,7) (5,8)

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(6,0) (6,1) (6,2) | (7,0) (7,1) (7,2) | (8,0) (8,1) (8,2)

(6,3) (6,4) (6,5) | (7,3) (7,4) (7,5) | (8,3) (8,4) (8,5)

(6,6) (6,7) (6,8) | (7,6) (7,7) (7,8) | (8,6) (8,7) (8,8)