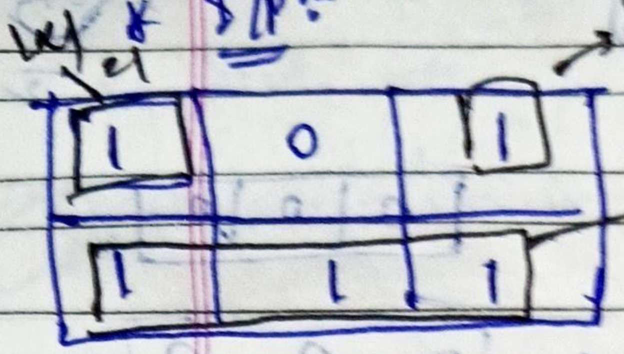
Find the Min. Area to cover All ones II

I/P:



area = 1 + 1 + 3 = 5

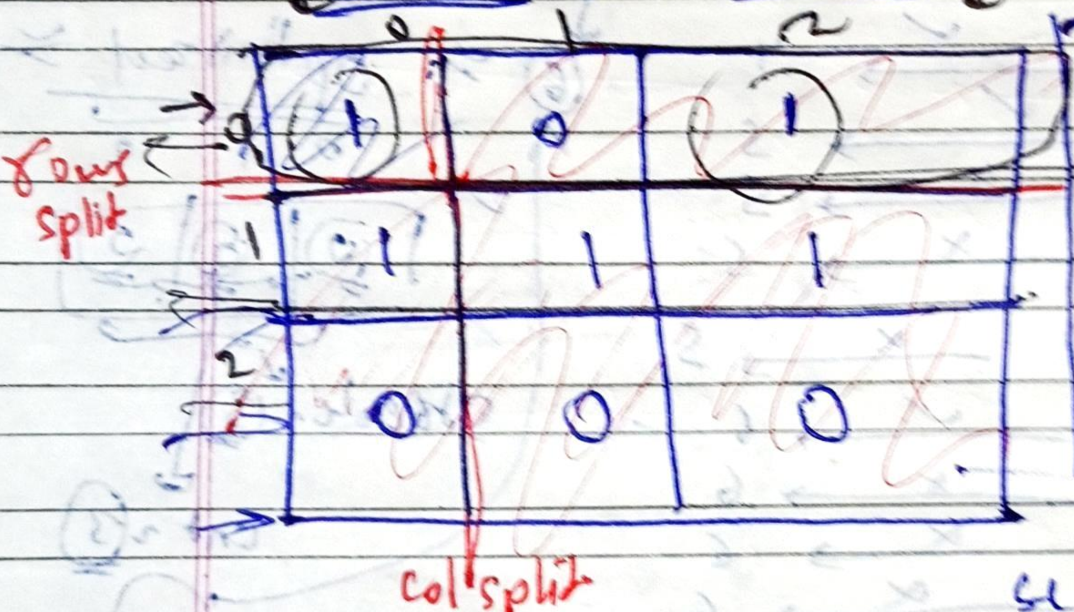
O/P: 5

Min area

or possible way

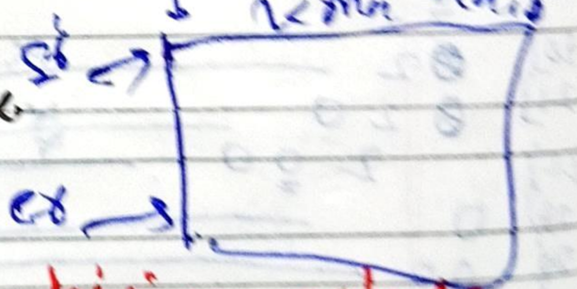
Thought Process

Hint



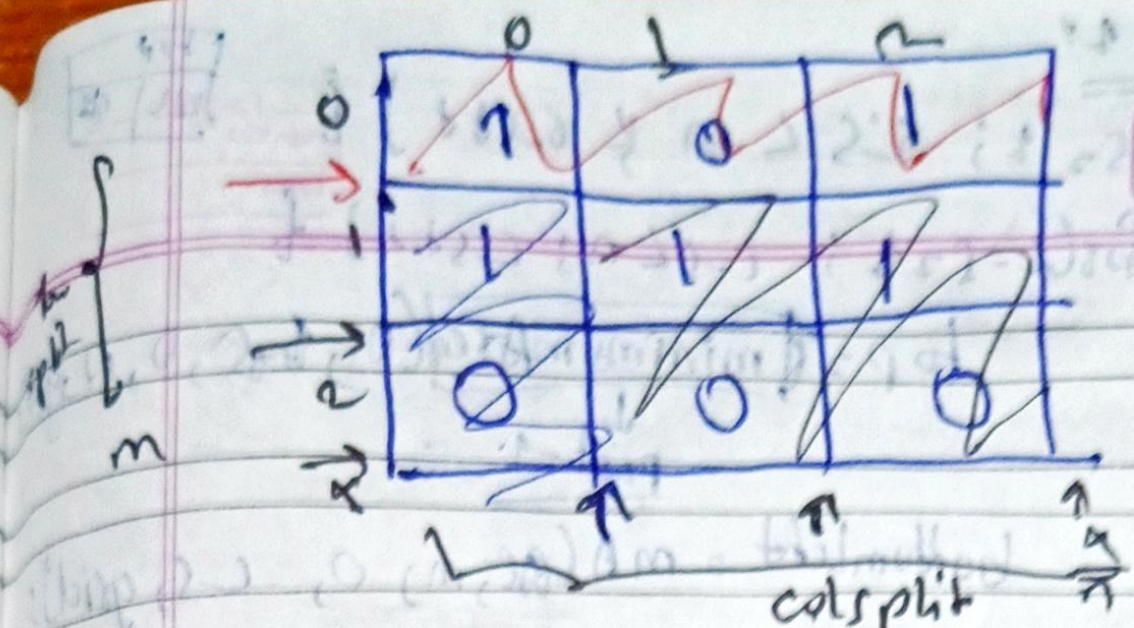
2 splitting line drawn to get 3 rectangles

sr split kaha karna hai sc



grid { s_r = 0; e_r = 1; → split line; s_c = 0; e_c = 2; }

part I ← grid = min. area containing only 1s

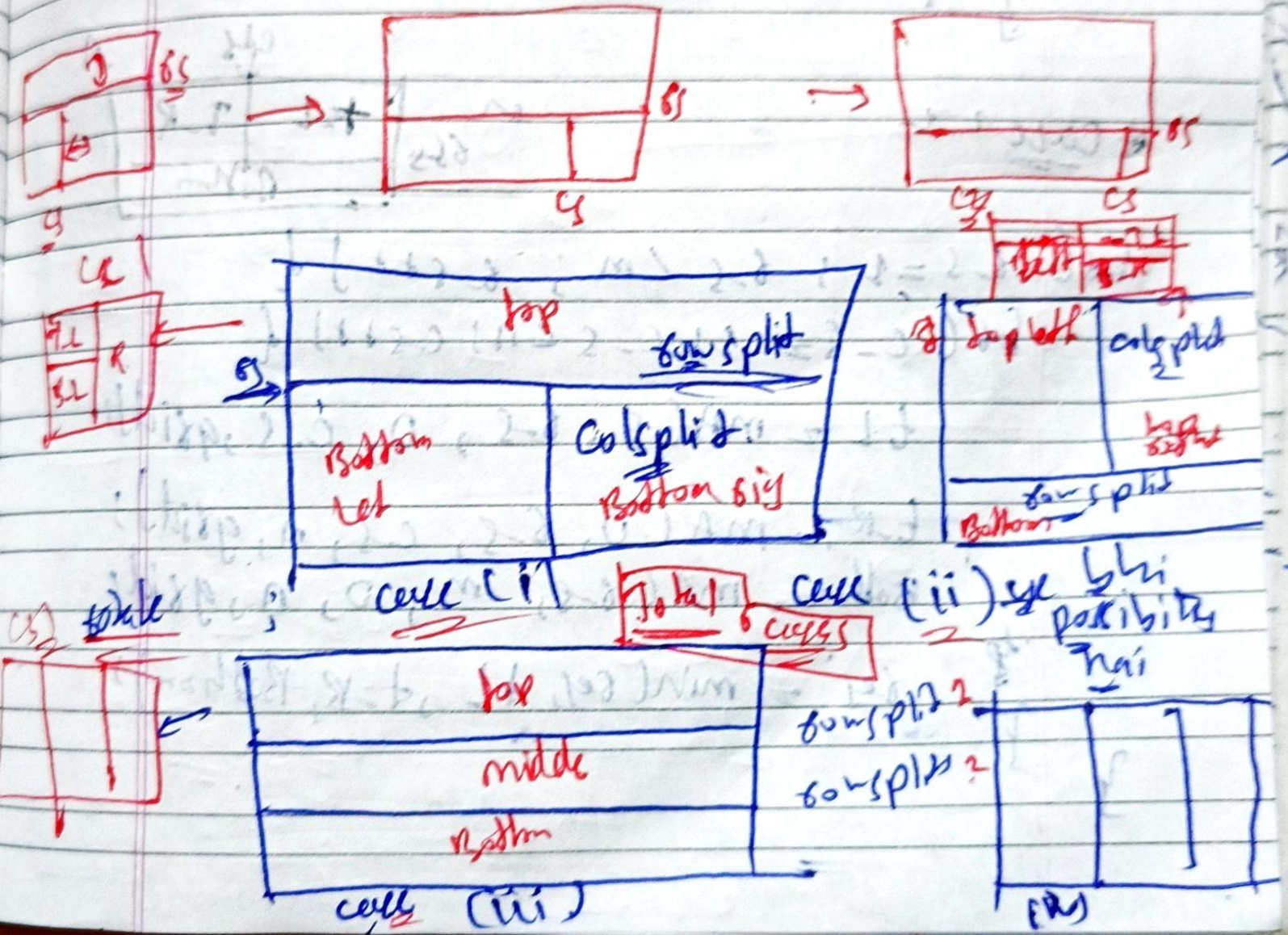


Possibilities

rowsplit = 1
colsplit = 1

rowsplit = 2
colsplit = 2

```
for( rowsplit = 1; rowsplit < m; rowsplit++){
    for(colsplit = 1; colsplit < n; colsplit++){
```



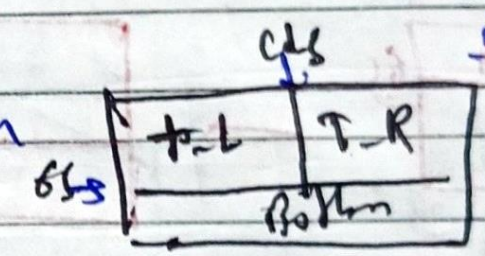
Call 1:

```
for(r_s=1; r_s<m; r_s++){
    for(c_s=1; c_s<n; c_s++){
        top = minimumArea(0, r_s, 0, n, grid);
```

Part-1

```
        bottomLeft = mA(m, 0, c_s, grid);
        b_r = mA(r_s, m, c_s, n, grid);
        res = min(res, top, bottomLeft);
    }
}
```

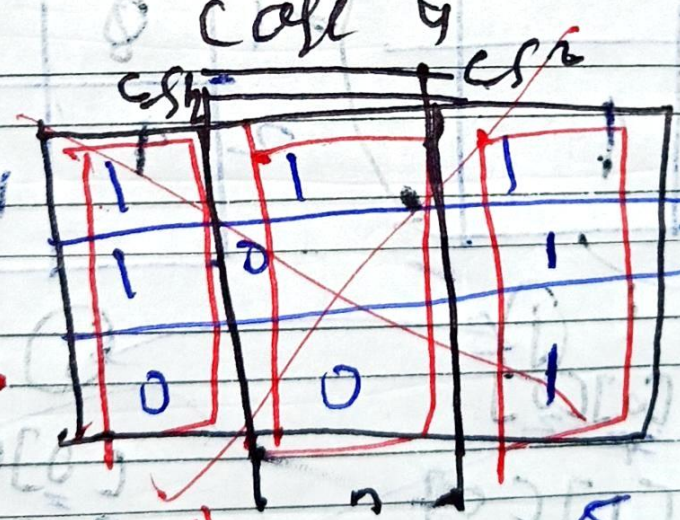
Call 2:

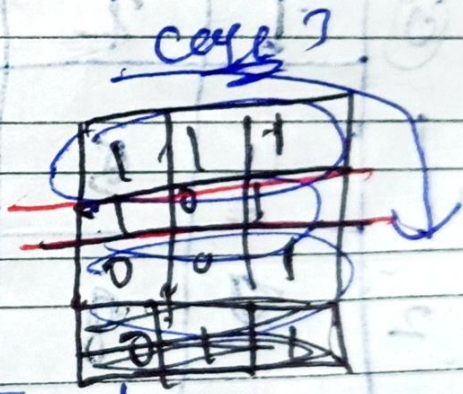



```
for(r_s=1; r_s<m; r_s++){
    for(c_s=1; c_s<n; c_s++){
        tL = mA(0, r_s, 0, c_s, grid);
        tR = mA(0, r_s, c_s, n, grid);
        Bottom = mA(r_s, m, 0, n, grid);
        res = min(res, tL, tR, Bottom);
    }
}
```

Case 3:

```
for(c_s2 1 ; c_s< m ; c_s++){
    top = mA( 0, c_s1, 0, n, grid);
    middle = mA (c_s1, c_s2, 0, n, grid);
    Bottom = mA (c_s2, m, 0, n, grid);
    res = min(res, top, middle, Bottom);
}
return res;
```

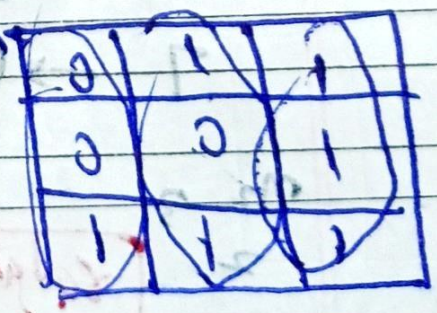




Horizontal

Rotate Clockwise

* we can write code for this too. but this code is no need.



① case=1 & case 2 → bt loop

② case-3 → for loop

③ Rotate grid (clockwise)

④ Rep ① & ②

$O(n^2 * n^2)$

2 Split 3 Rotations

(n) Rotation