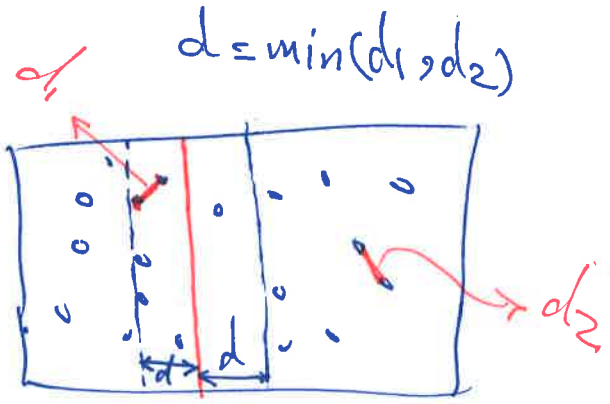
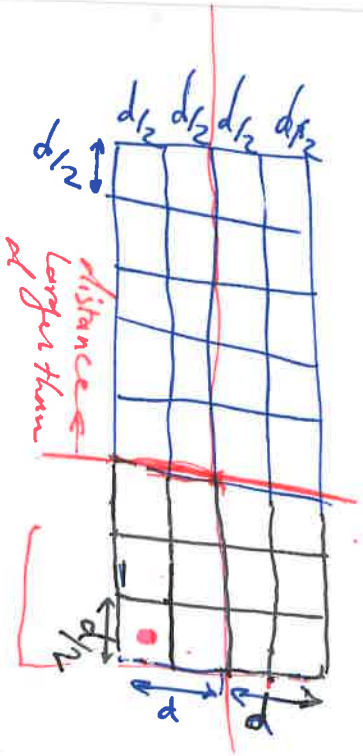
```
Merge&Count(A, B)
    j = 0 ; Count = 0 ;
    for (i = 0 to |A|-1)
        while(A[i] > B[j]) and (j < |B|)
            j = j + 1
        Count += j
    C = Merge(A,B)
    return (Count, C)
```

	0	1	2	3	4	5	
	3	7	10	14	18	19	A
	2	11	16	17	23	25	B

i	j	Count
	0	0
0	1	1
1	1	1+1 = 2
2	1	3
3	2	3+2 = 5
4	4	5+4 = 9
5	4	9+4 = 13





- There is at most 1 point in every cell
- Consider the point highlighted in the bottom-left cell.
  - → Every point above the red horizontal line has distance larger than d from it
  - → for every point in sorted list by y-axis, you need to compare it w/t 11 points

X = Sort Points by X-Coordinate

Y = " " " Y-Coordinate

Closest-Pair (low, high)

$m = \frac{l+h}{2}$

$X_L = X[l \dots m]$

$X_r = X[m+1 \dots h]$

$\delta_1 = $ Closest_Pair(X_L)

$\delta_2 = $ Closest_Pair(X_r)

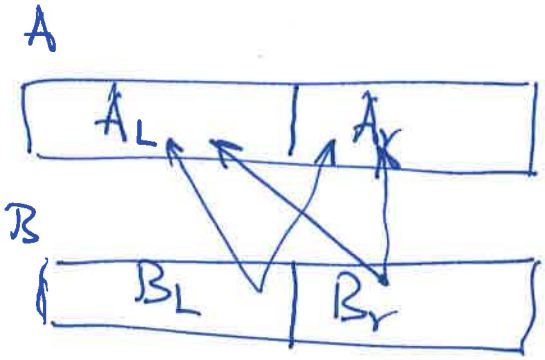
$\delta = \min(\delta_1, \delta_2)$

y = empty list

for (i = 0 to |Y|-1)

if (Y[i] belongs to the Stripe)

add Y[i] to y

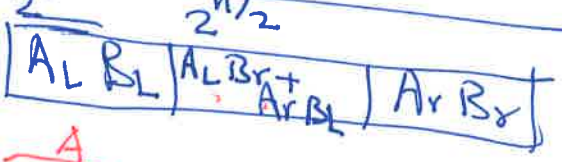


$A_r B_r$

$A_L B_r$

$A_r B_L$

$B_L B_r$



$A_r B_r + 2^{n/2}(A_L B_r + A_r B_L) + 2^n A_L B_L$

A B C

$2^n B + A + 2^{n/2}\{(A_L + A_r)(B_L + B_r) - A_L B_L - A_r B_r\}$

B A

$= 2^n B + A + 2^{n/2}(C - A - B)$