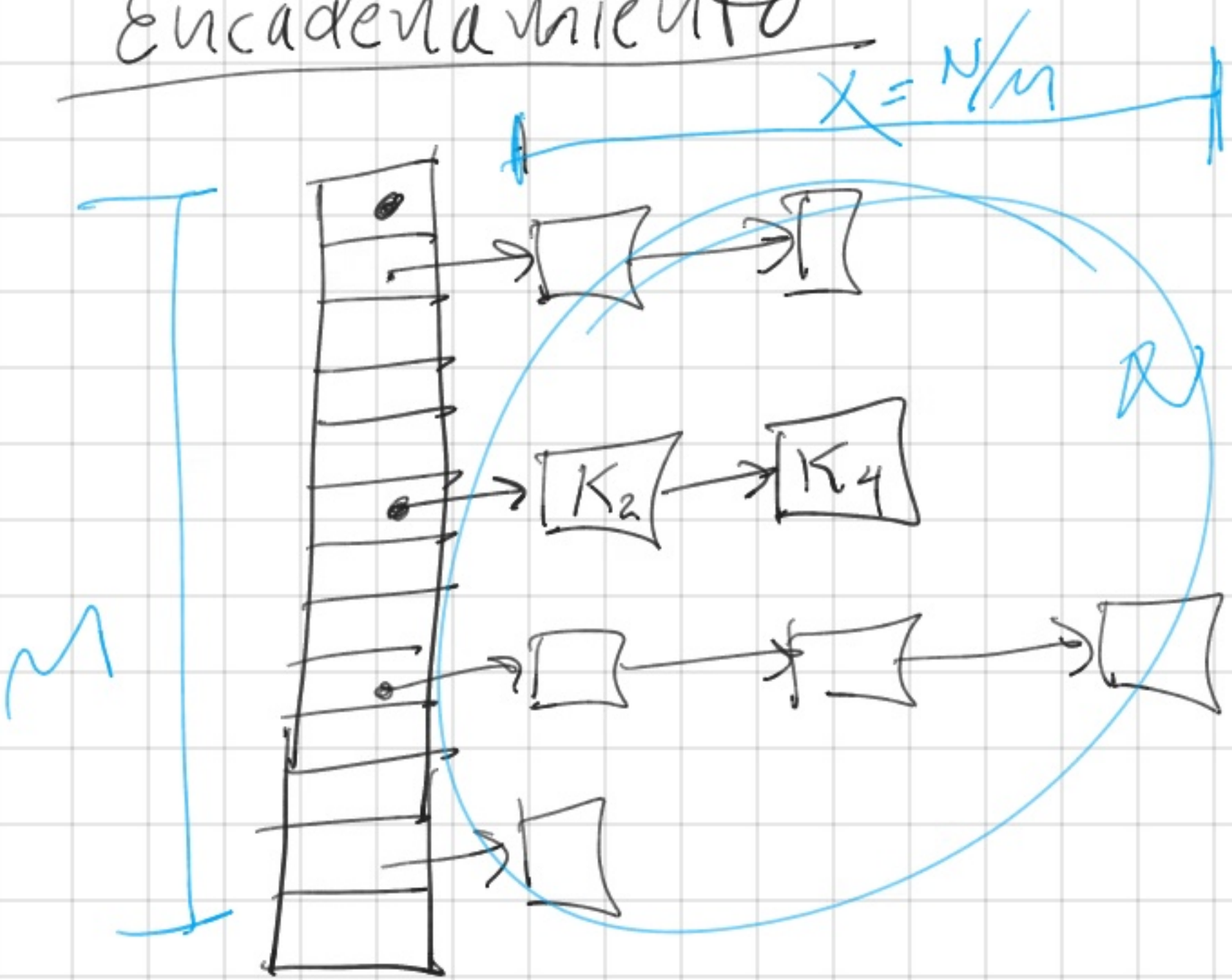
Estructuras de Datos

2024-06-20

Tablas de dispersión

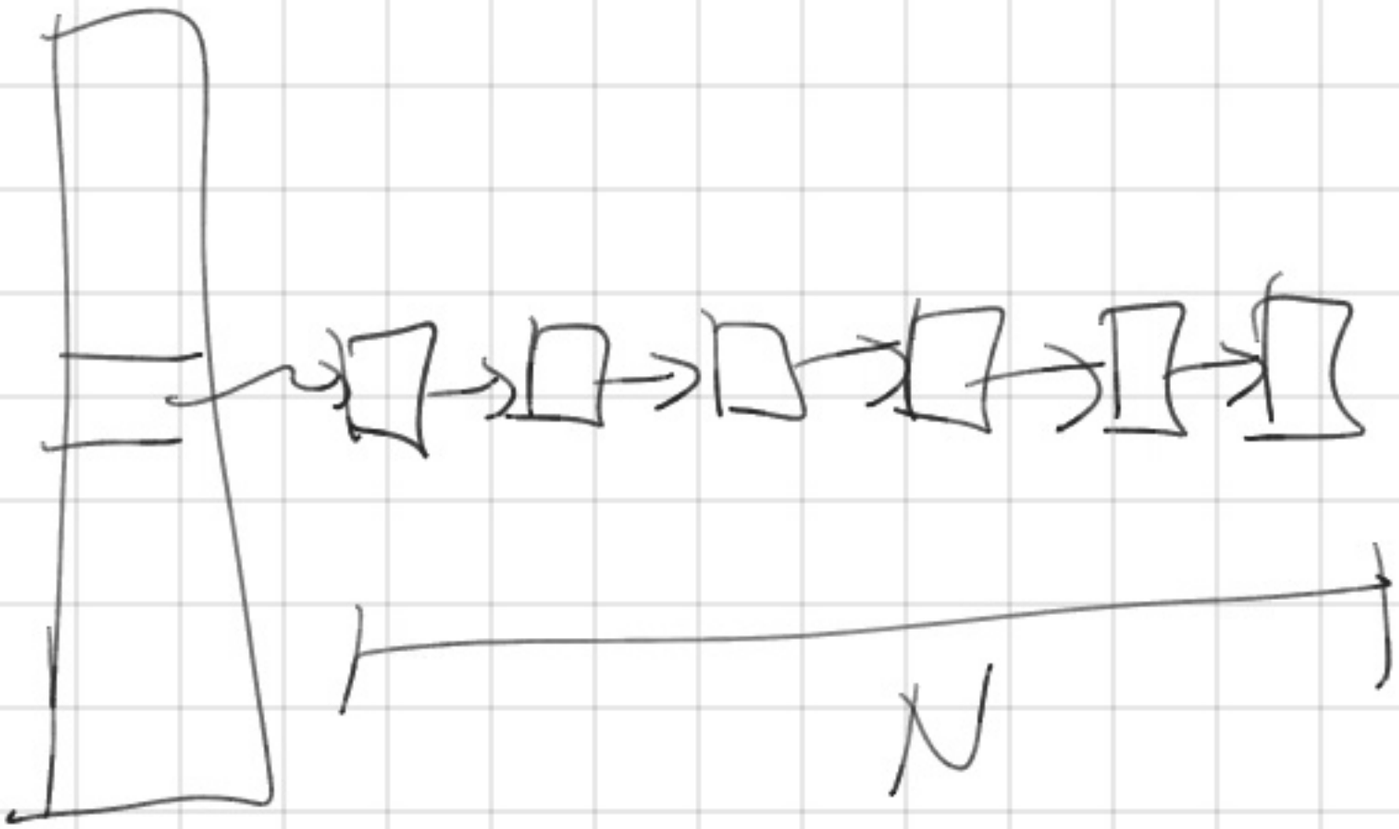
¡Buenas días!

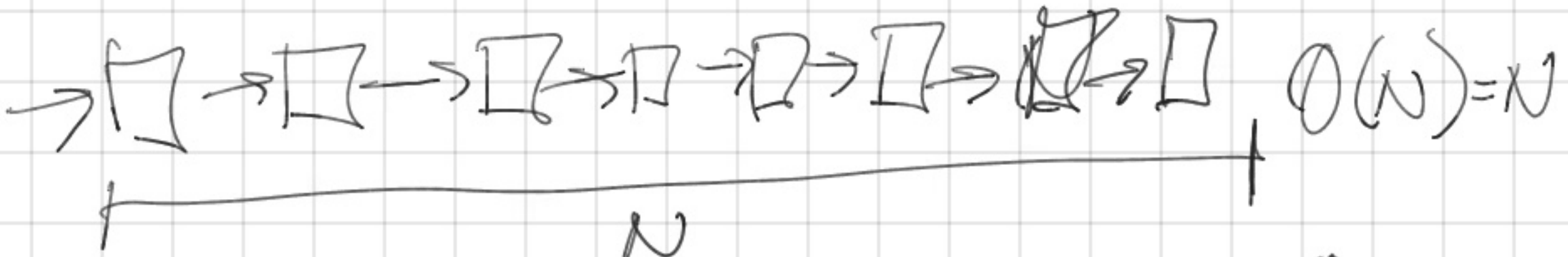
Encadenamiento

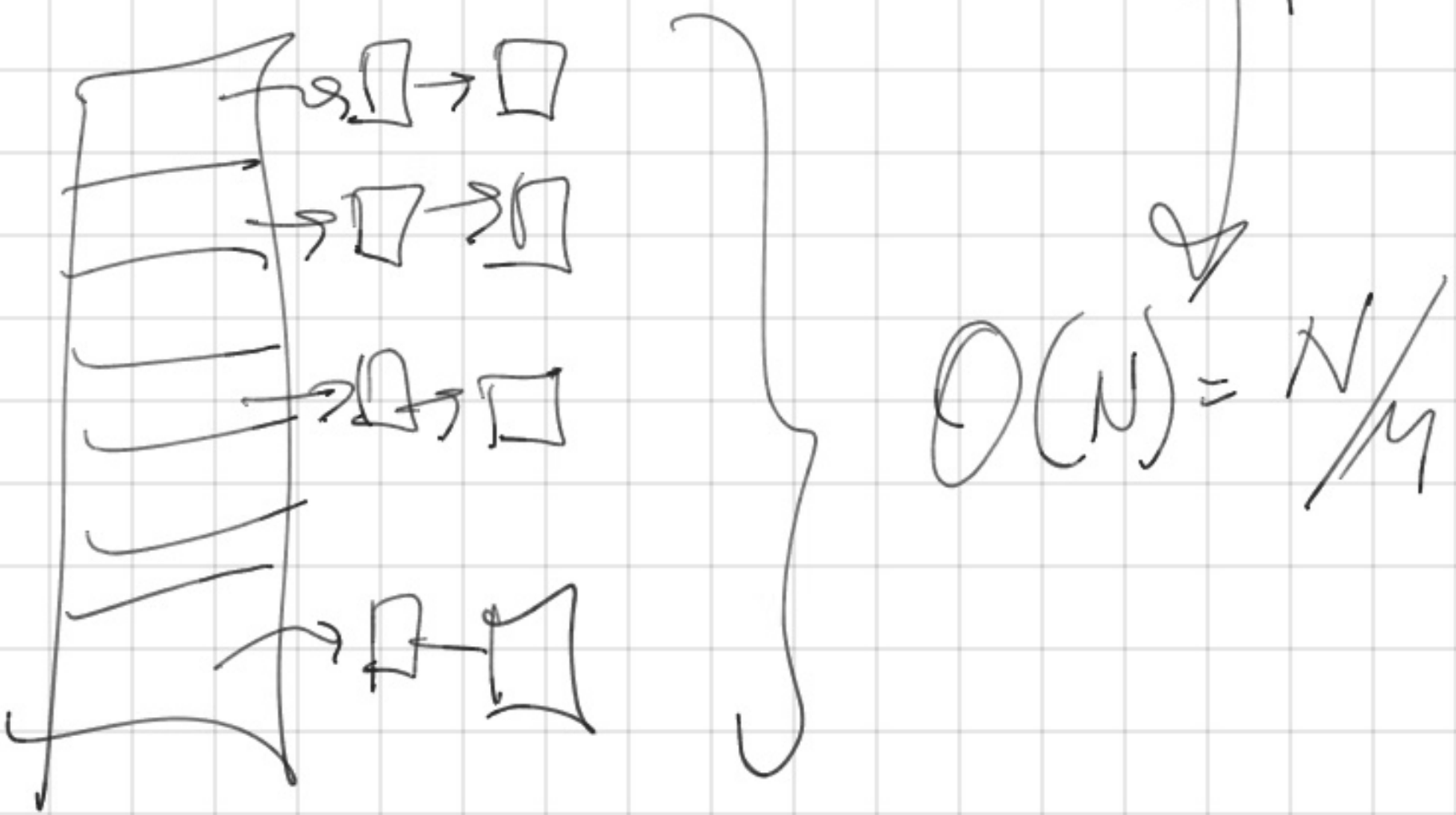


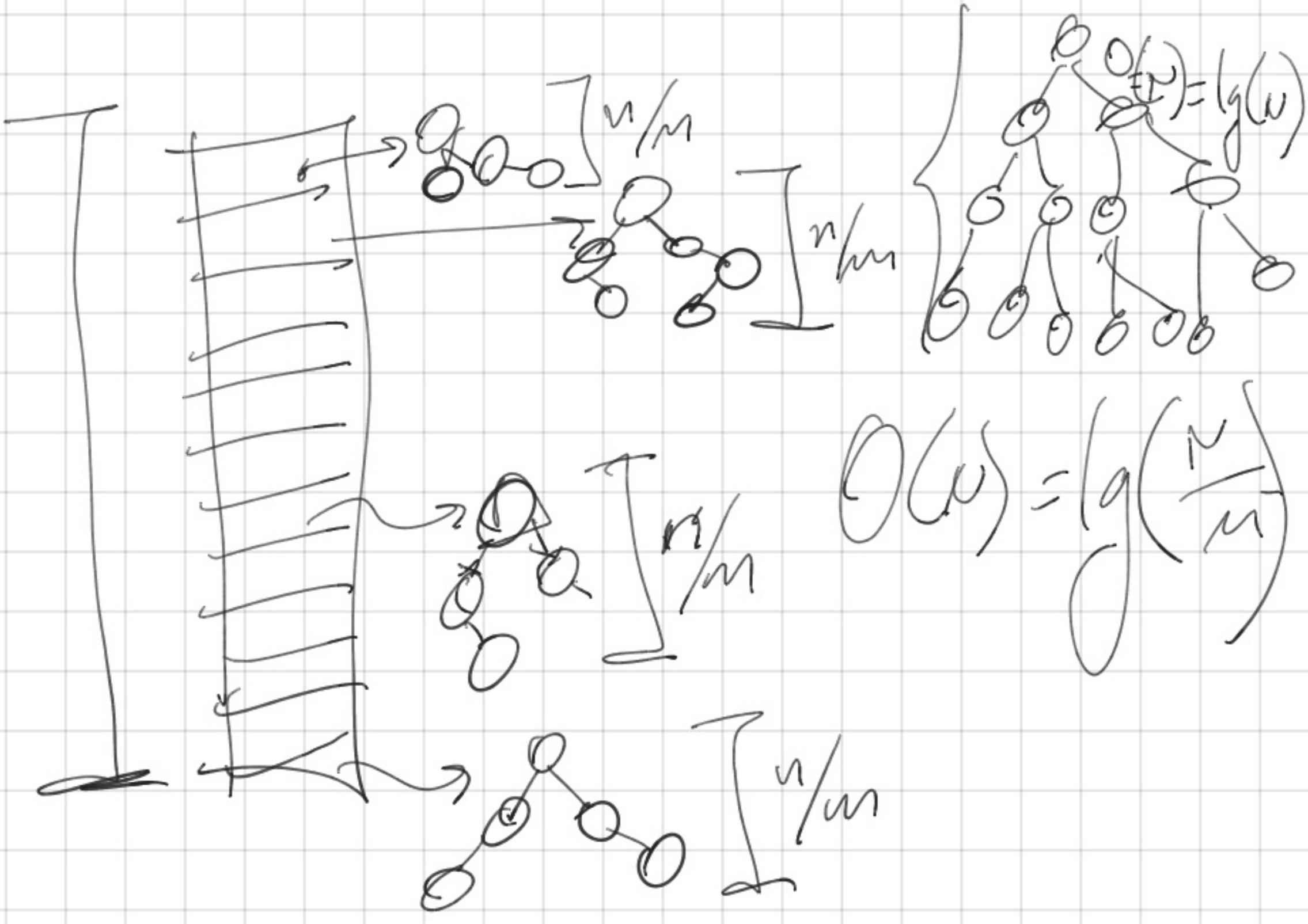
N = cantidad de datos
M = tamaño de la tabla.

sublineal

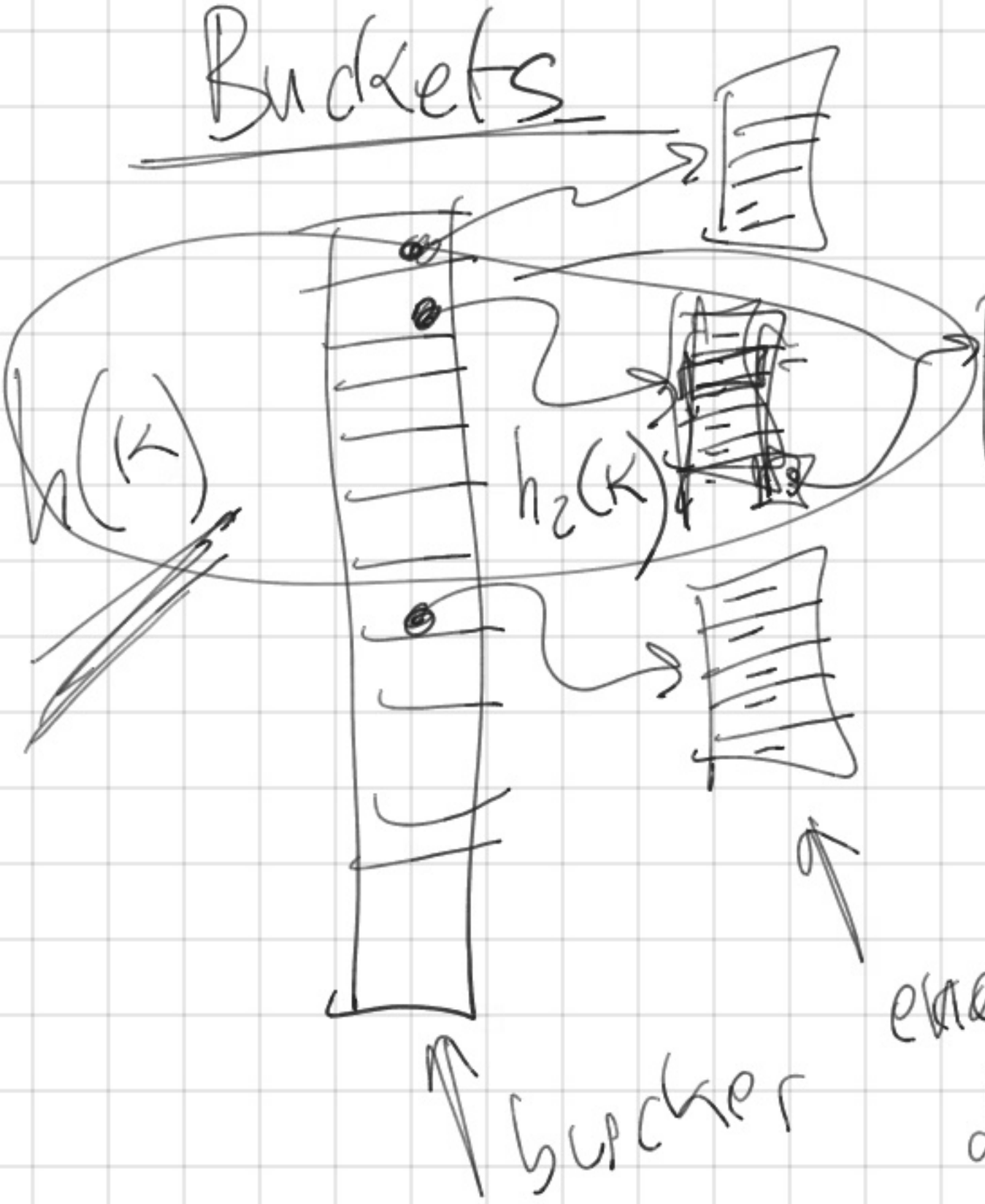

N


O(N)=N
N


O(N)=N/4


n/m
n/m
n/m
n/m
n/m
O(n) = lg(n)
O(n) = lg(n/m)

Buckets



pos = h(K)%M

return K%M

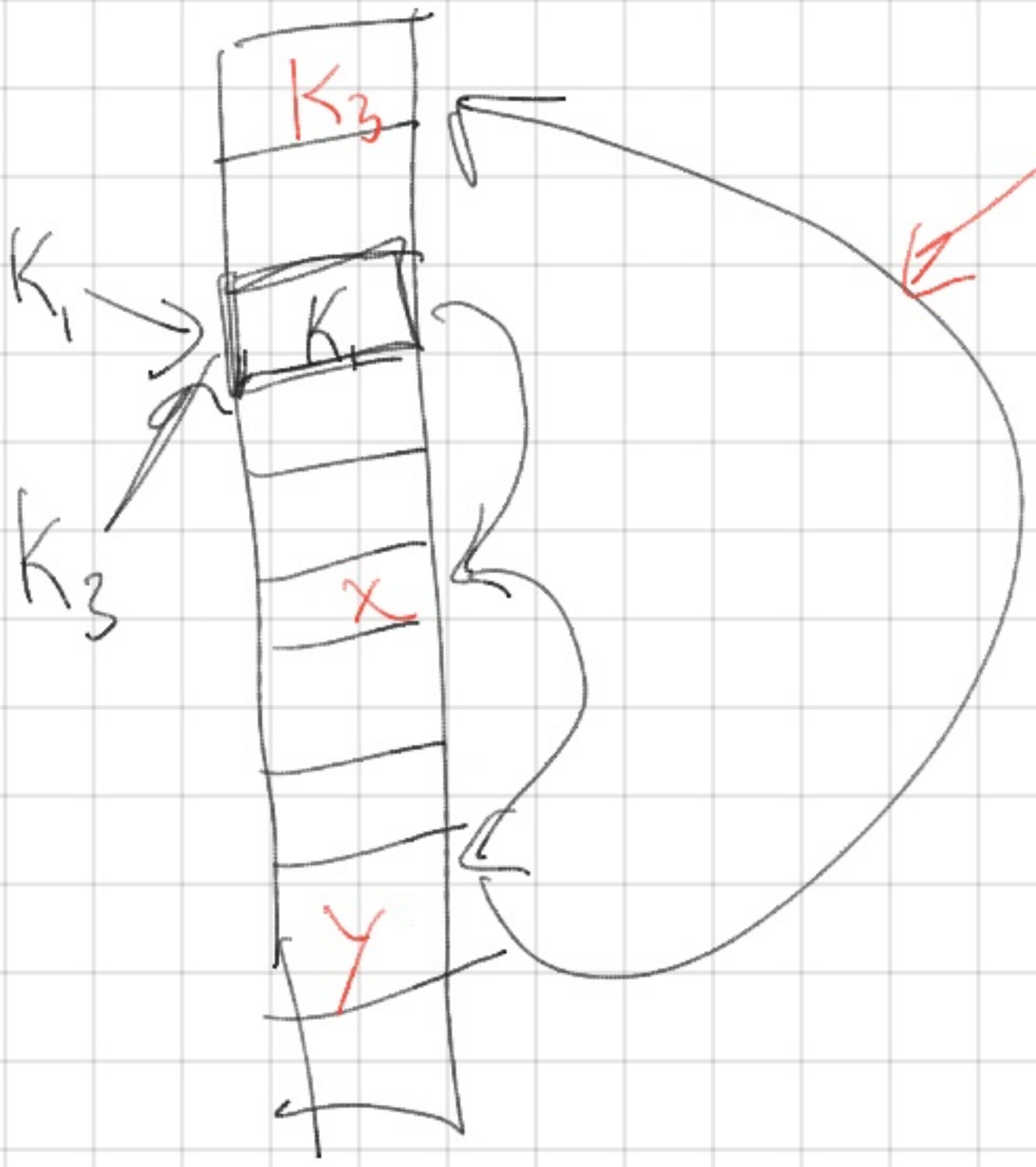
pos2 = h2(K)%M

return

buckets

encadenamiento directo

Direccionamiento abierto



Secuencia de prueba

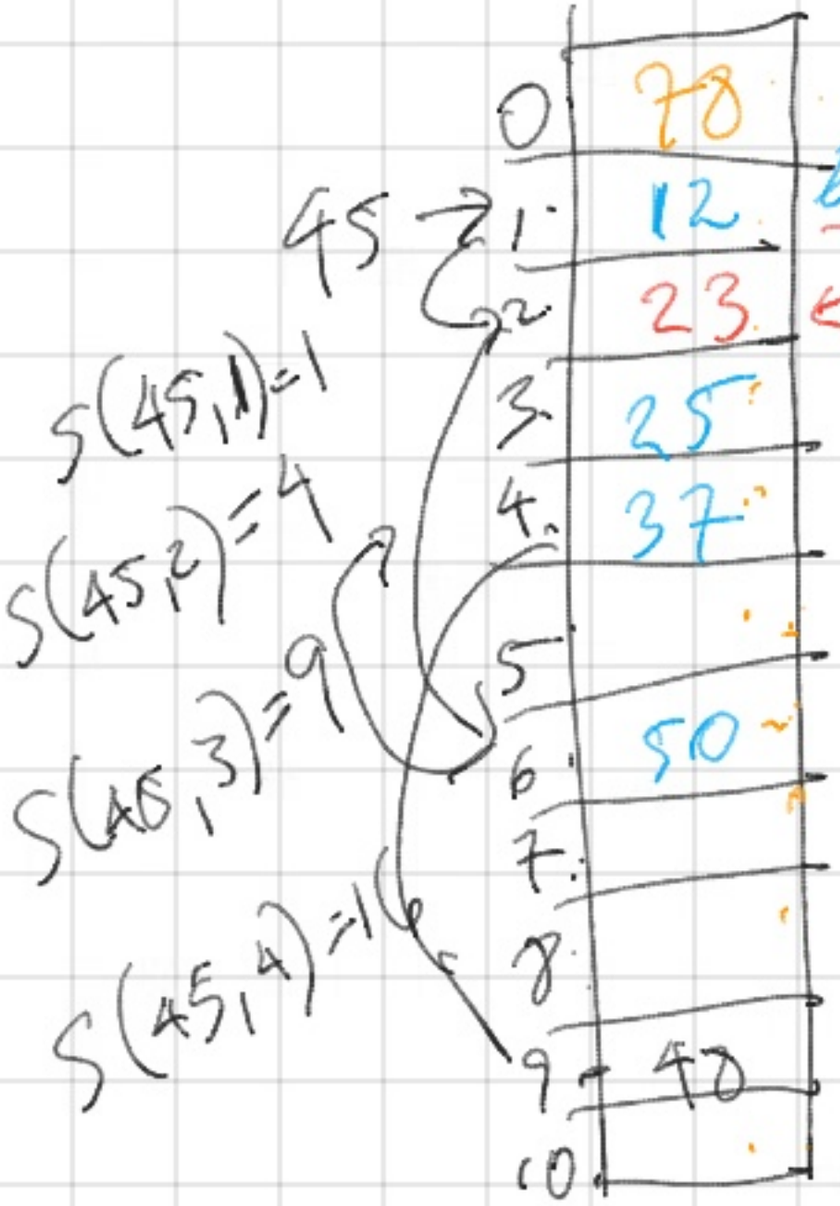
← limite

M/e

M/2

M/3

$S(K,i) = i^2$



$S(78,1)=1$

$S(78,2)=4$

$S(78,3)=9$

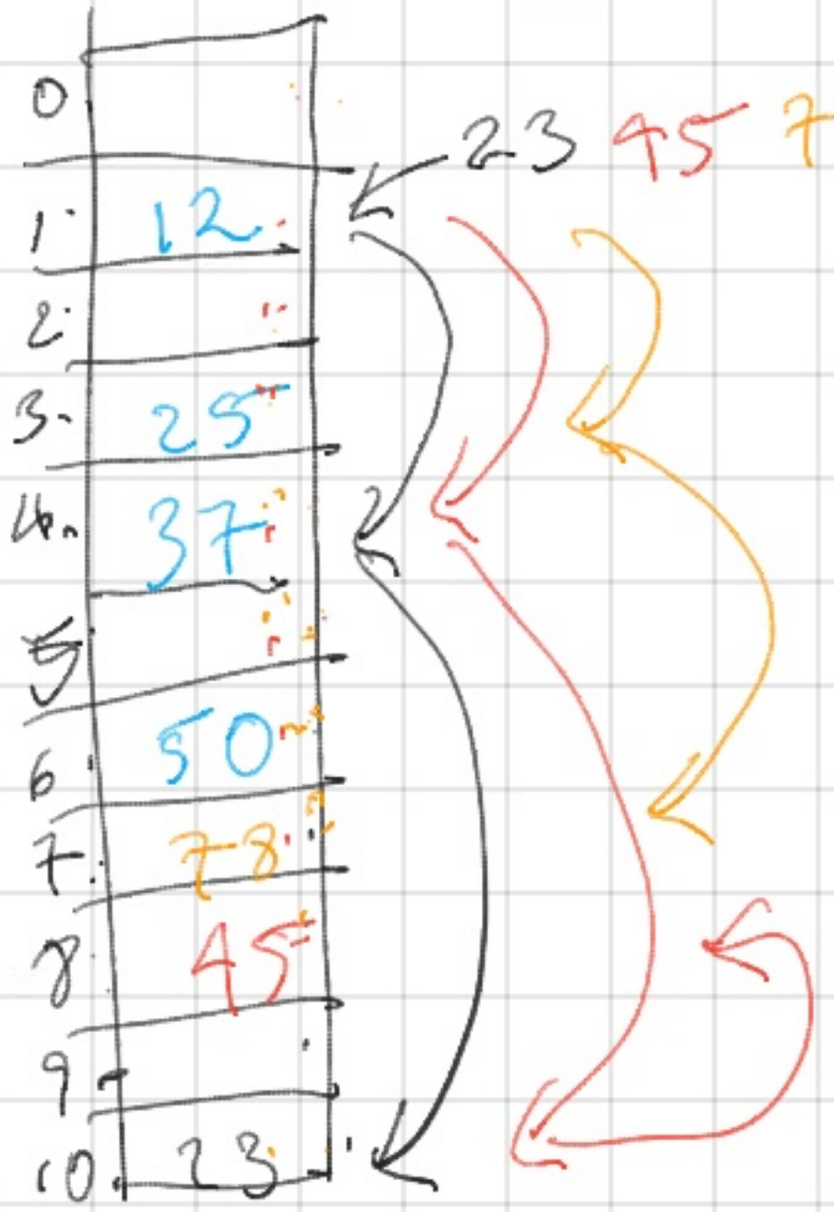
$S(78,4)=16$

$S(78,5)=25$

$=36$

Doble hashing

$$s(k,i) = (k \% 7 + 1) * i$$



$s(23,1) = 3$

$s(23,2) = 6$

$s(45,1) = 3$

$s(45,2) = 6$

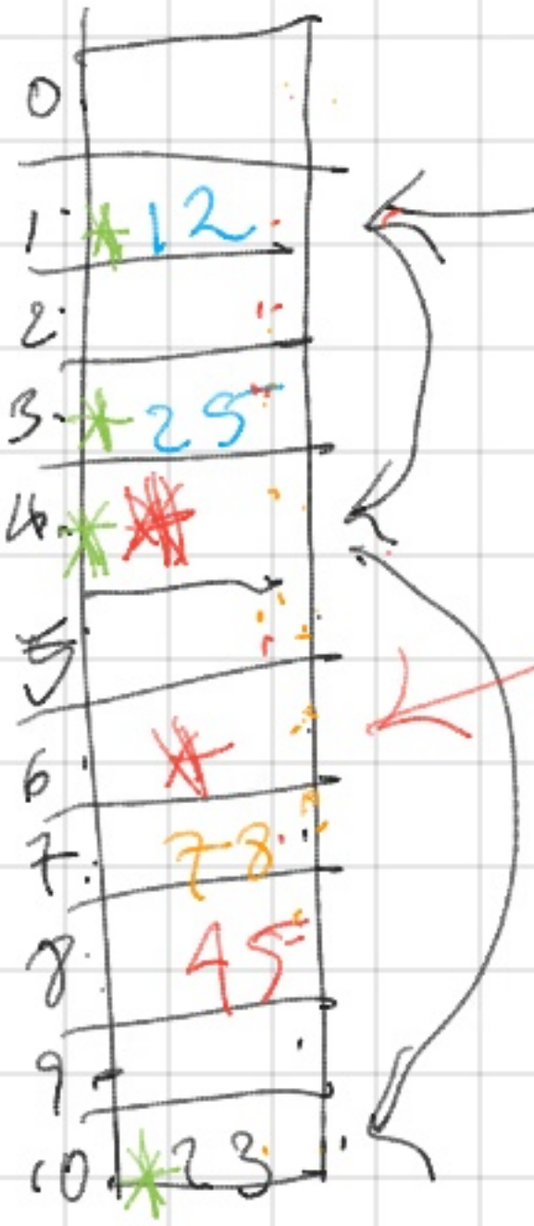
$s(45,3) = 9$

$s(78,1) = 2$

$s(78,2) = 4$

get(23)

h(23)



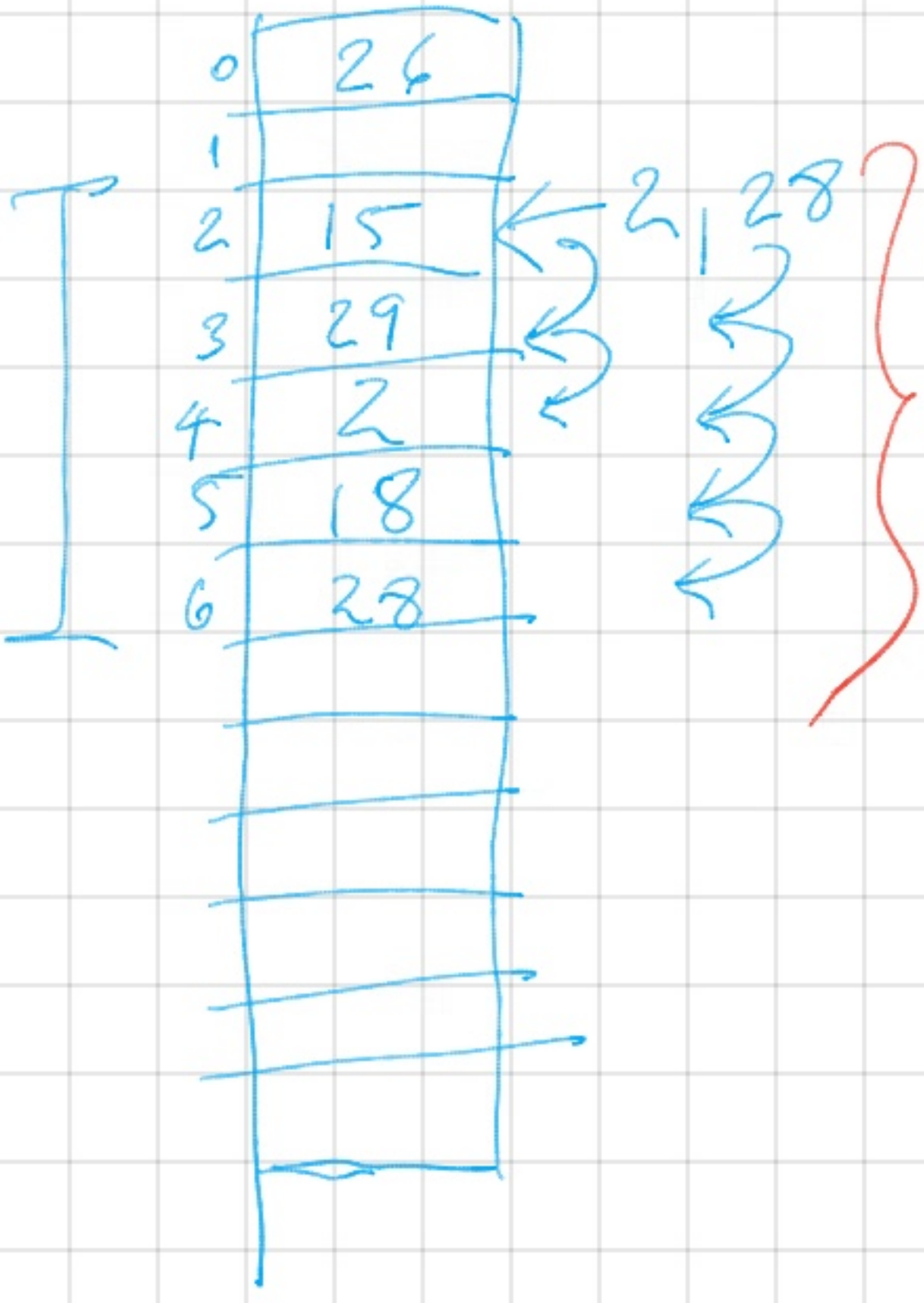
-37

* - borrado

* - usado en secuencia

libre

Lineal $S(K,i) = 1$



$15 \% 13 = 2$

$26 \% 13 = 0$

$29 \% 13 = 3$

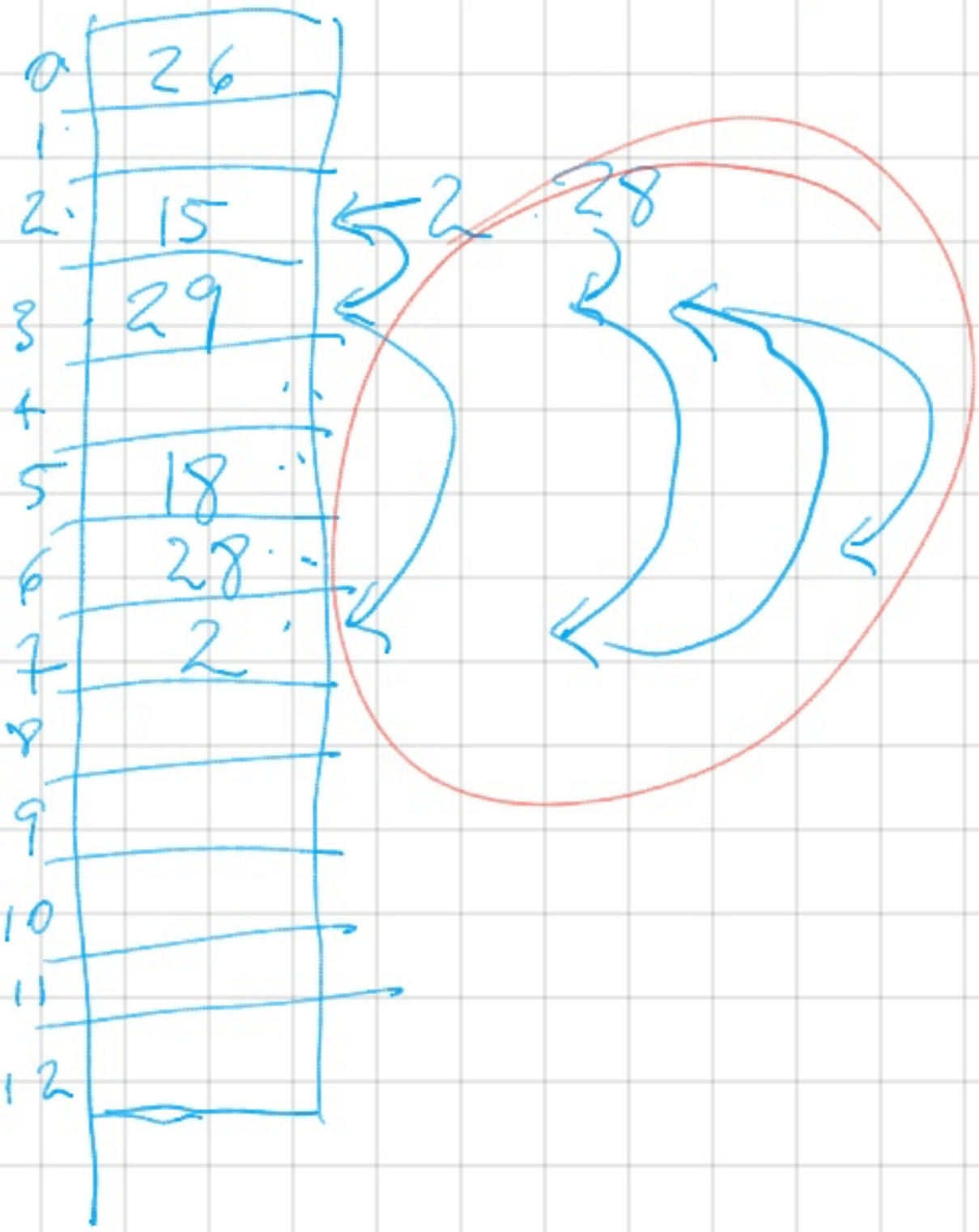
$2 \% 13 = 2$

$18 \% 13 = 5$

$28 \% 13 = 2$

Cuadrático

$S(K, i) = i^2$



15 % 13 = 2

26 % 13 = 0

29 % 13 = 3

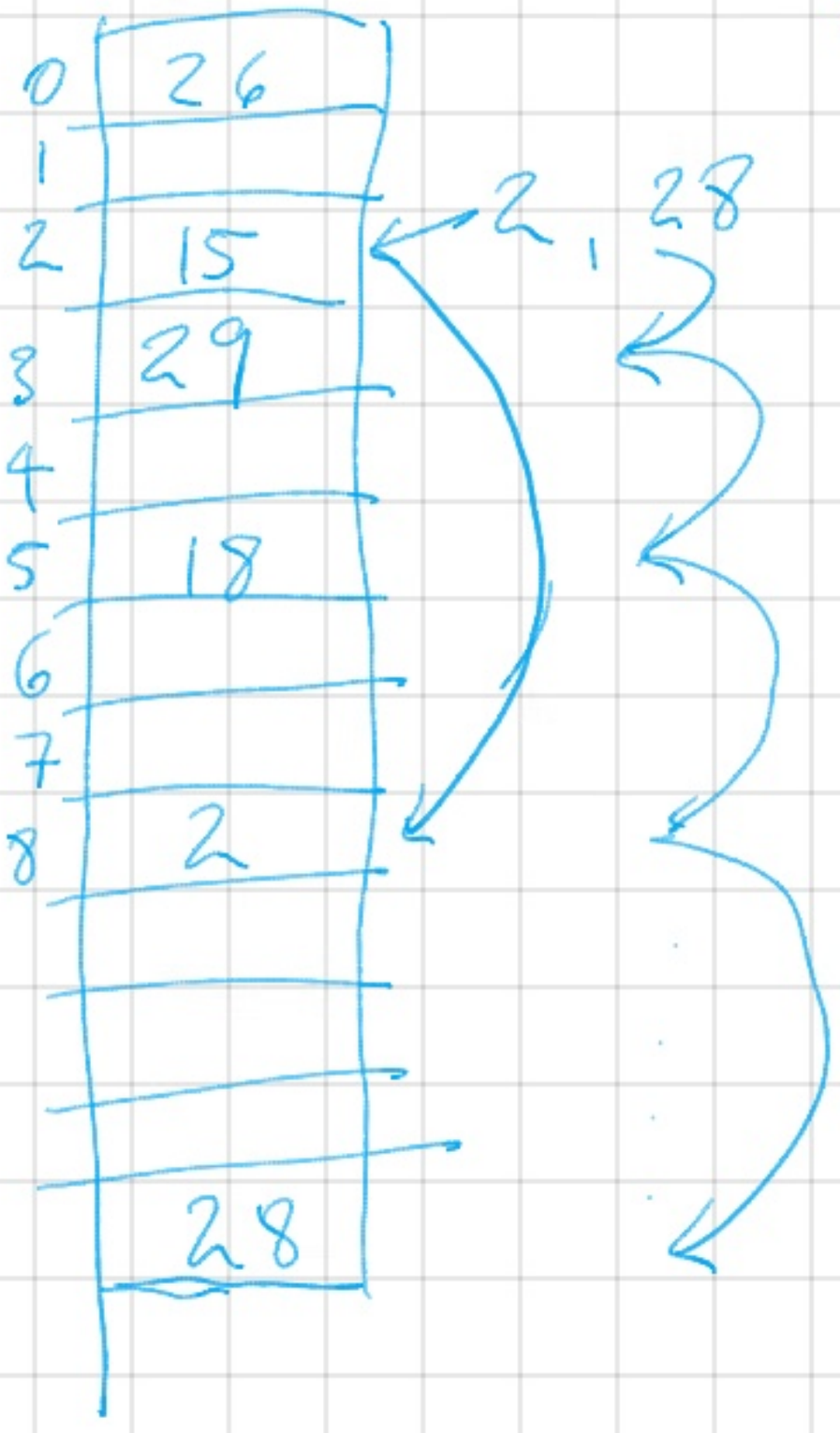
2 % 13 = 2

18 % 13 = 5

28 % 13 = 2

Doble hashing

$S((k,i) = (k\%7 + 1)\, i$



$15\%13 = 2$

$26\%13 = 0$

$29\%13 = 3$

→ $2\%13 = 2$

→ $18\%13 = 5$

- $28\%13 = 2$