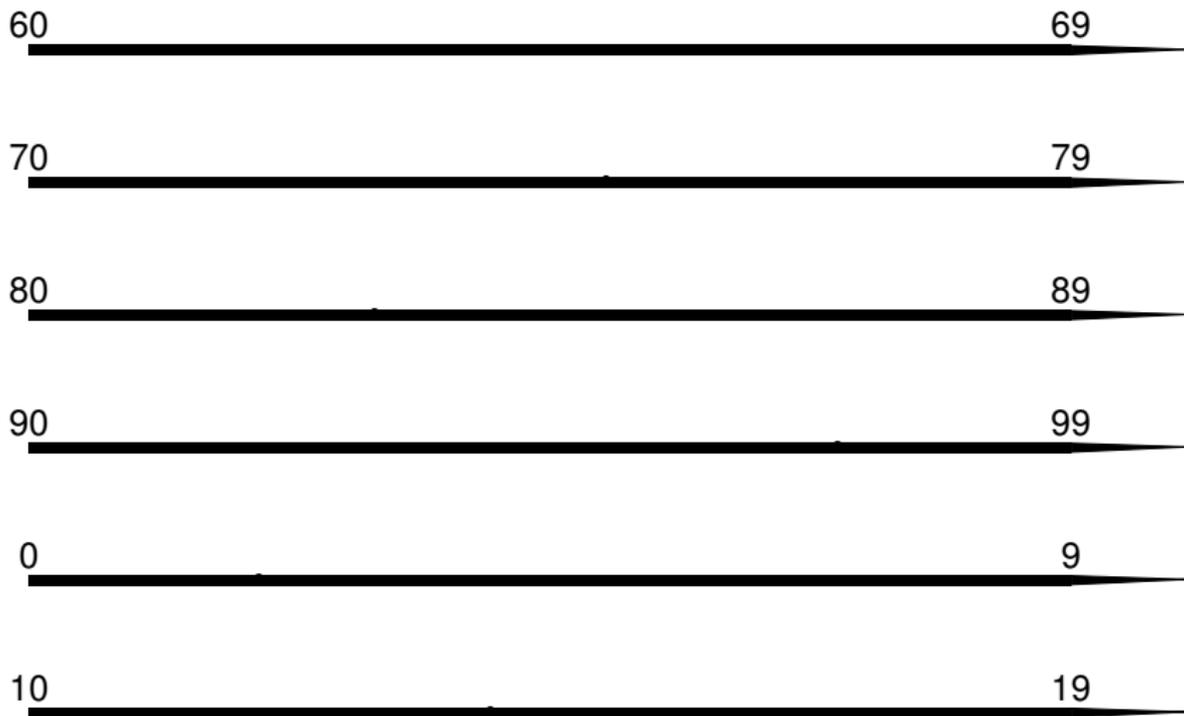


Agnes Benedek.
La matemática como construcción social.
La alegoría de las cortaduras y otras
conurrencias

XIV ENA A. P. Calderón 2018
Villa General Belgrano

Hugo Aimar, IMAL, Santa Fe
CONICET-UNL



La otra matemática de Agnes es densa en seis décadas ... usando sólo datos del MathSciNet



Agnes Benedek and Rafael Panzone.

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mars 62



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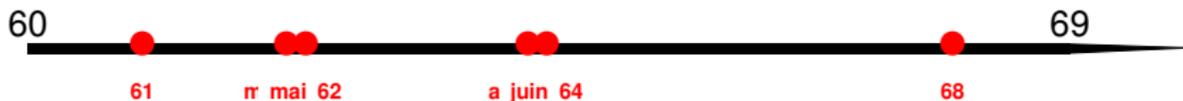
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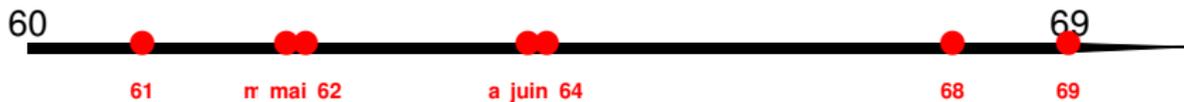
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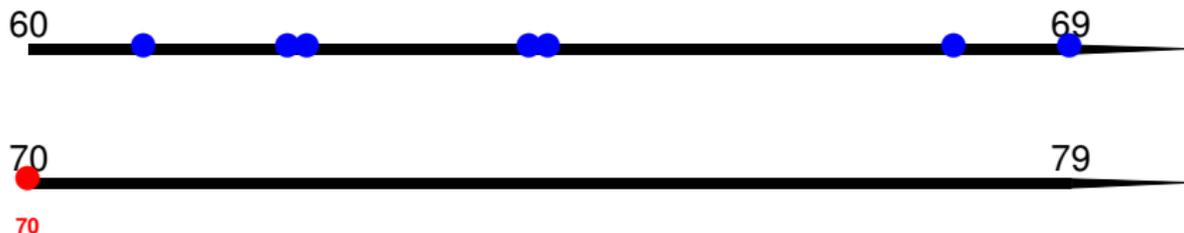
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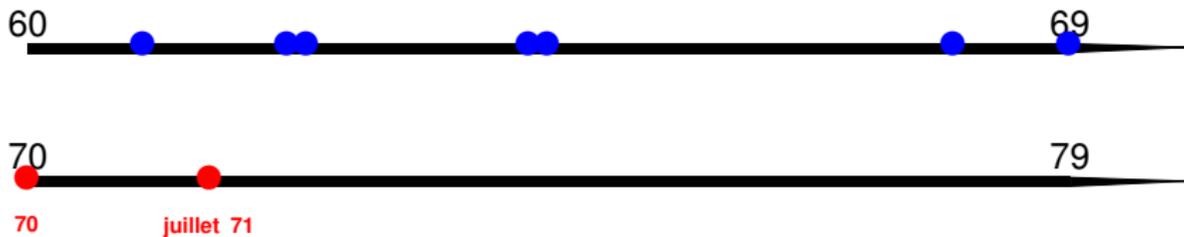
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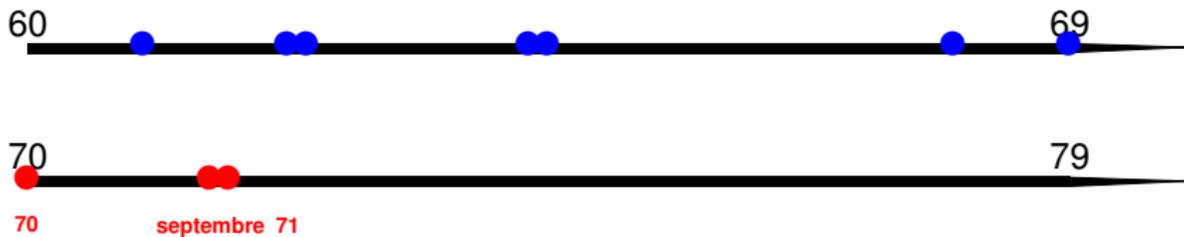
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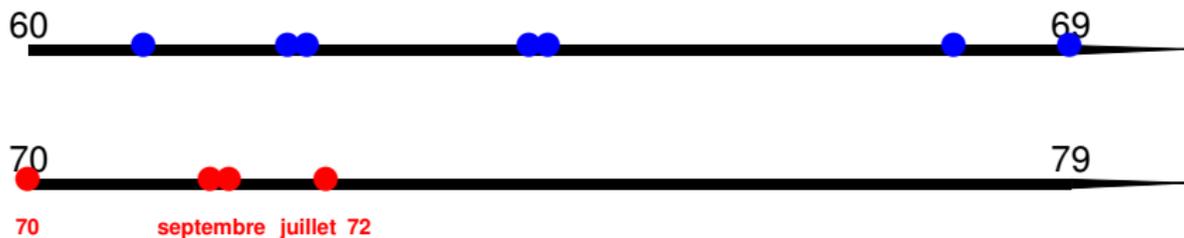
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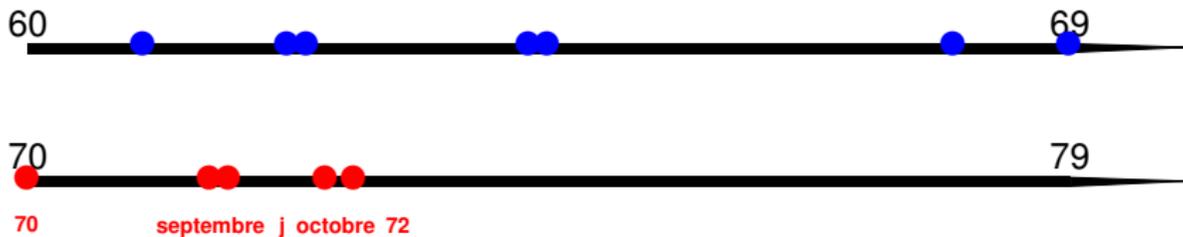
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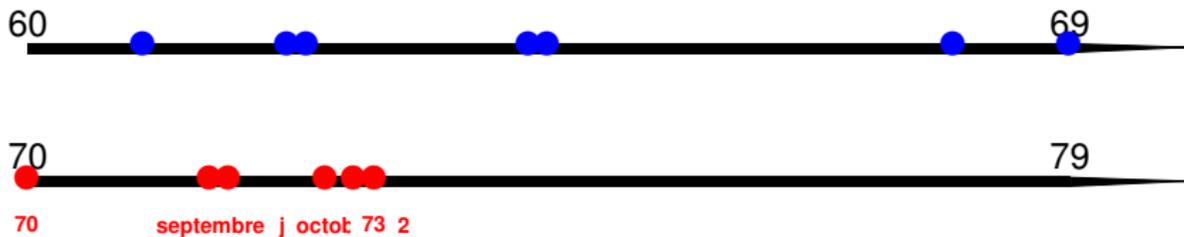
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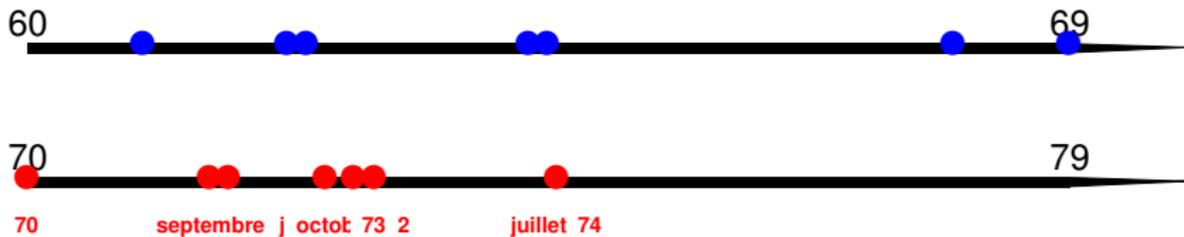
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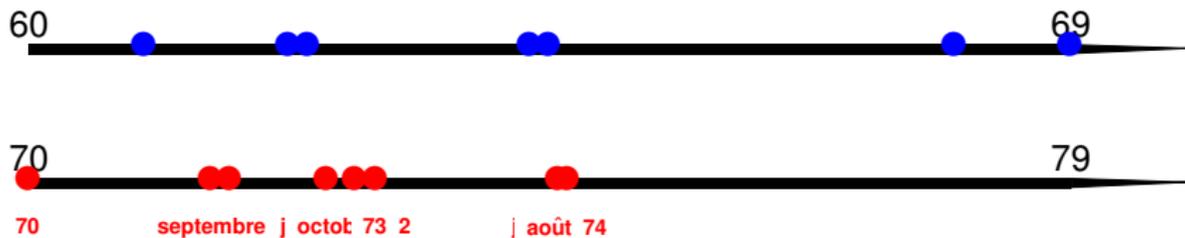
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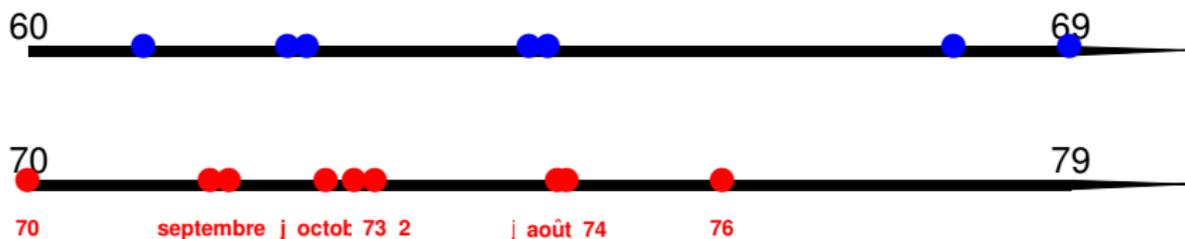
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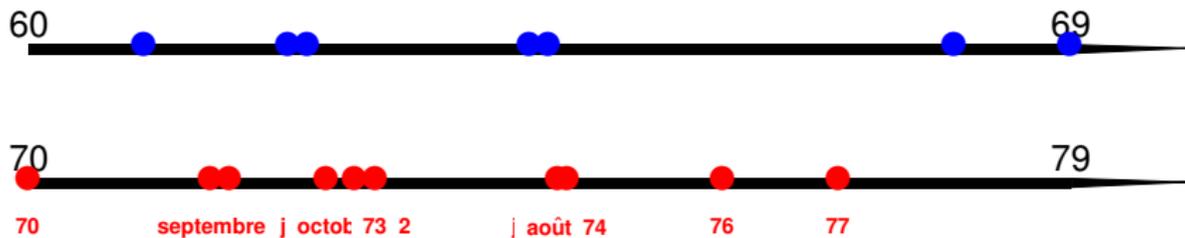
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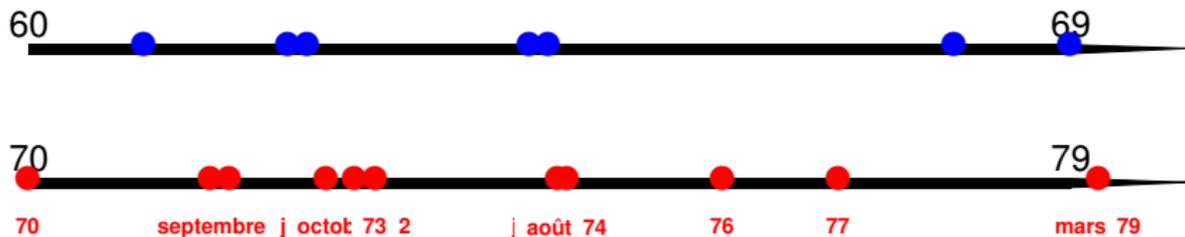
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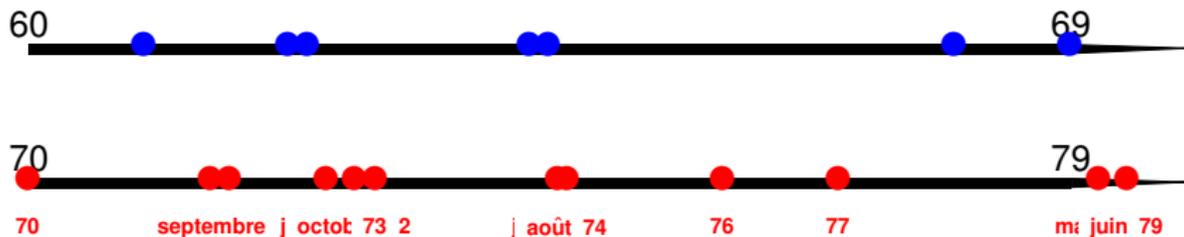
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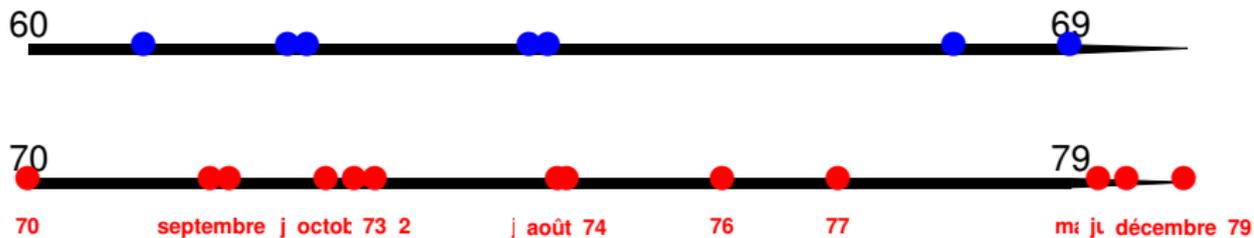
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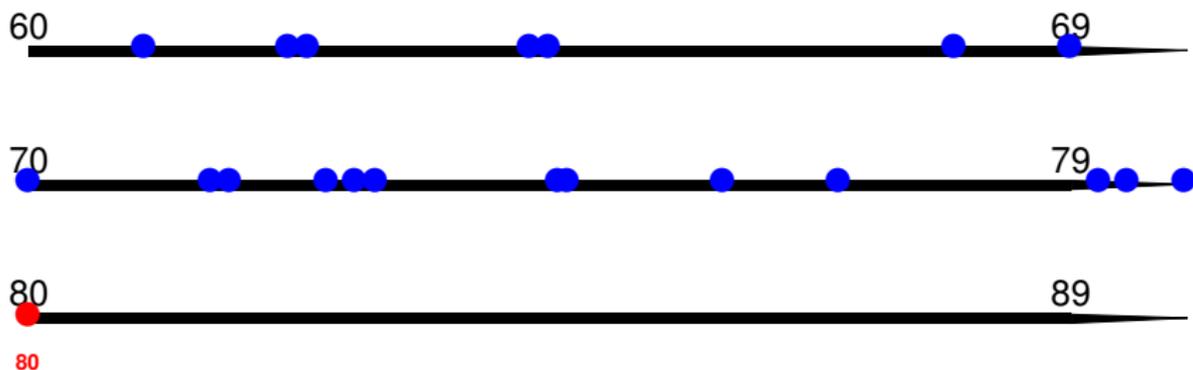
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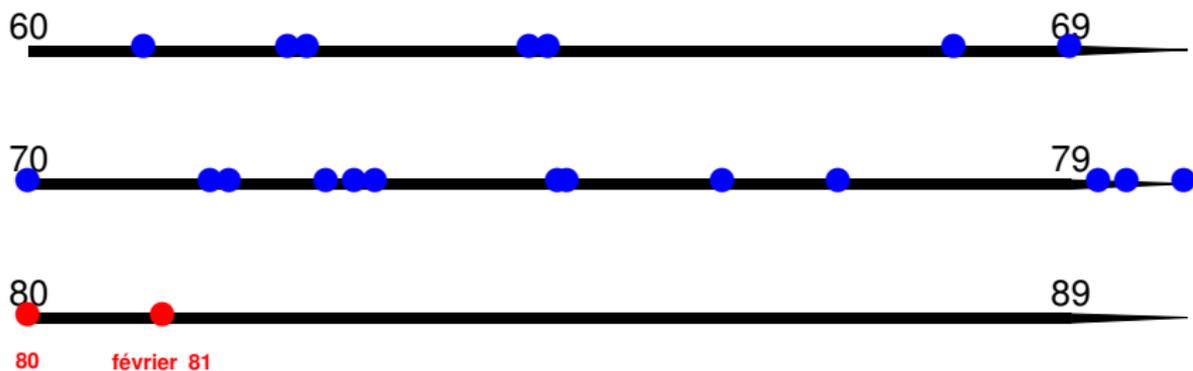
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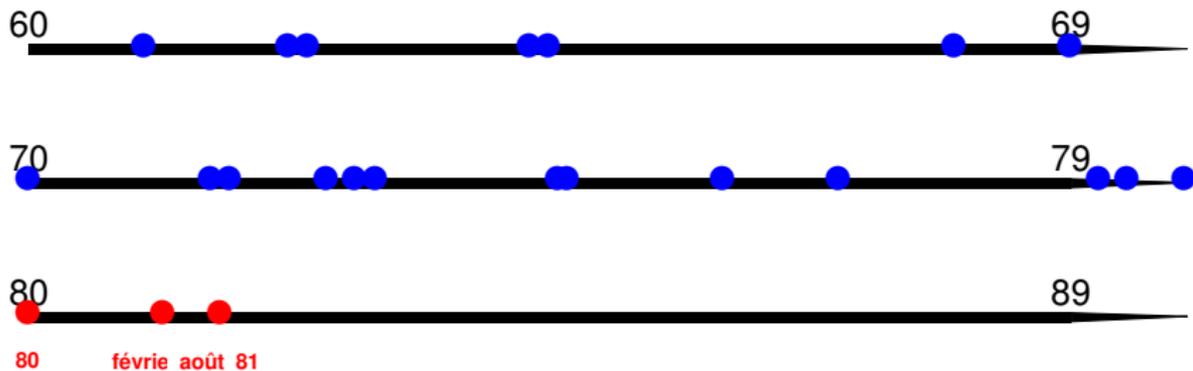
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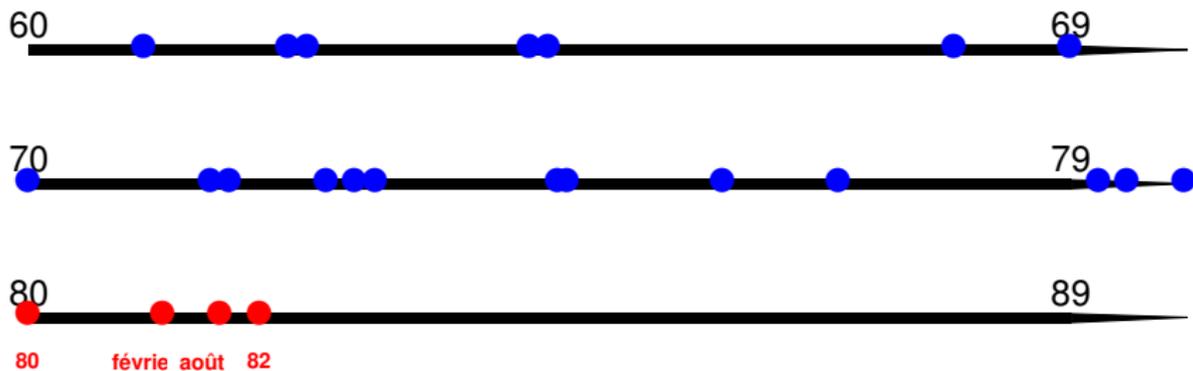
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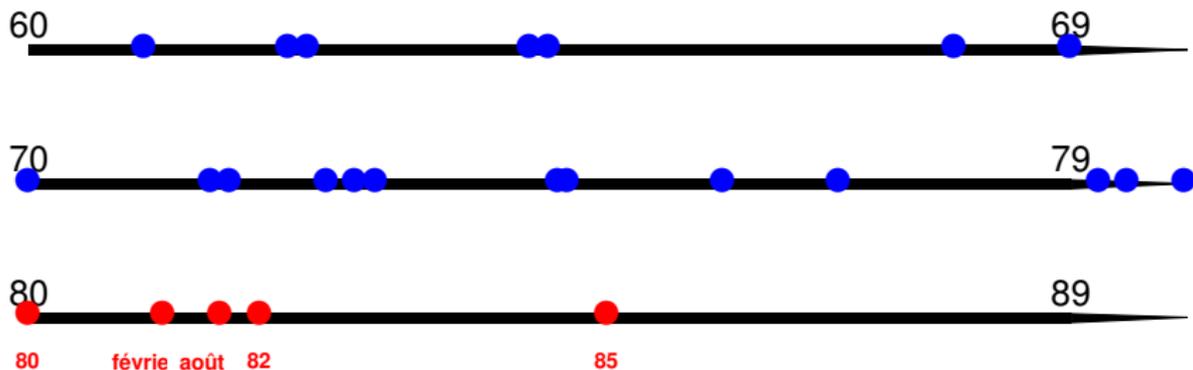
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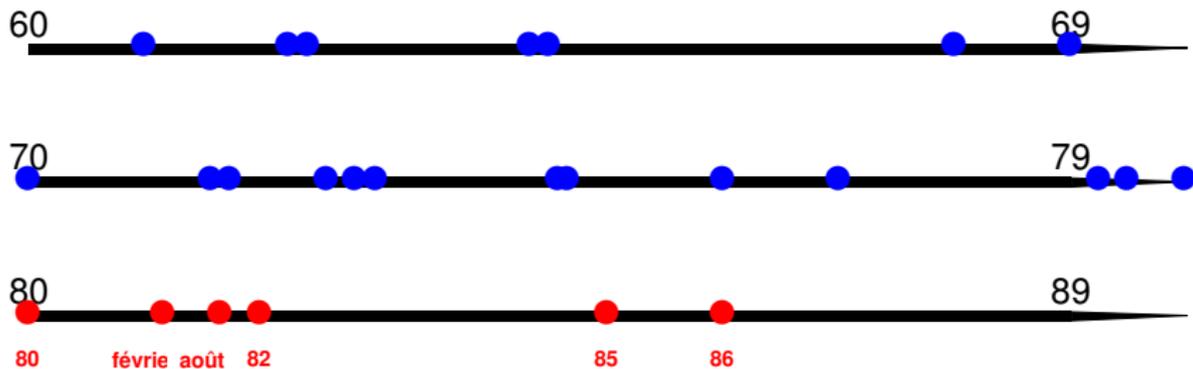
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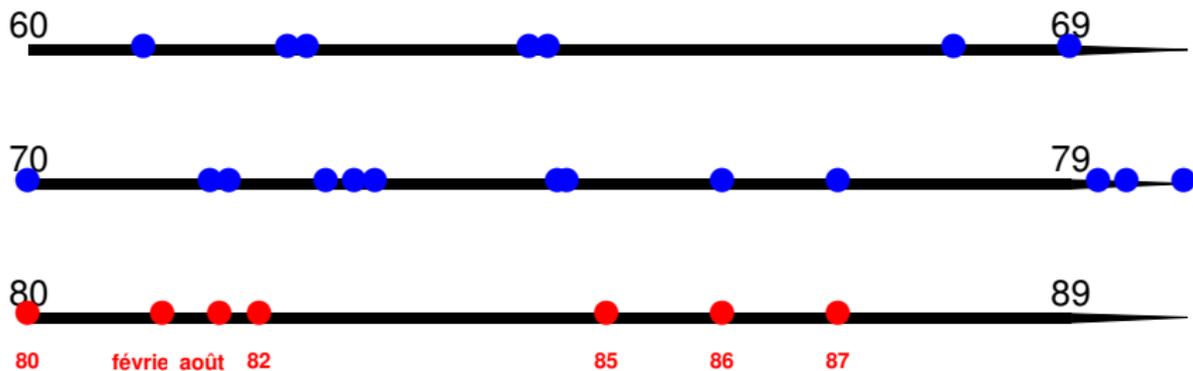
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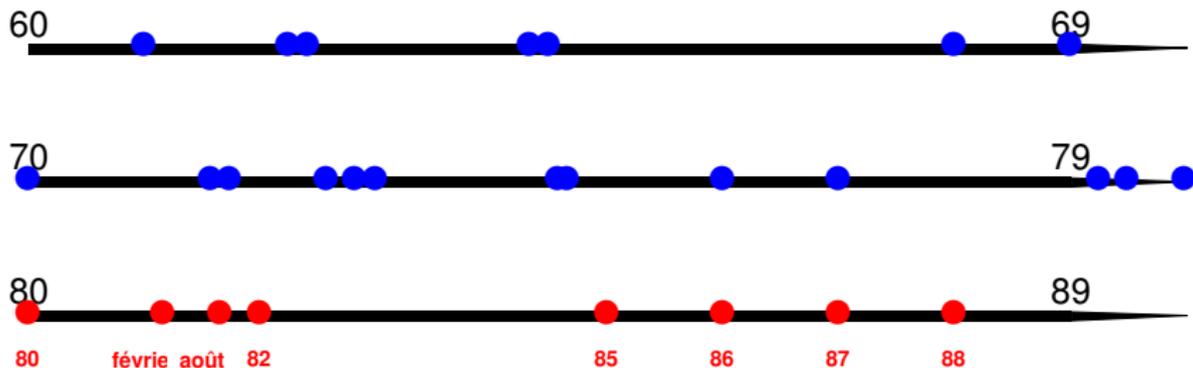
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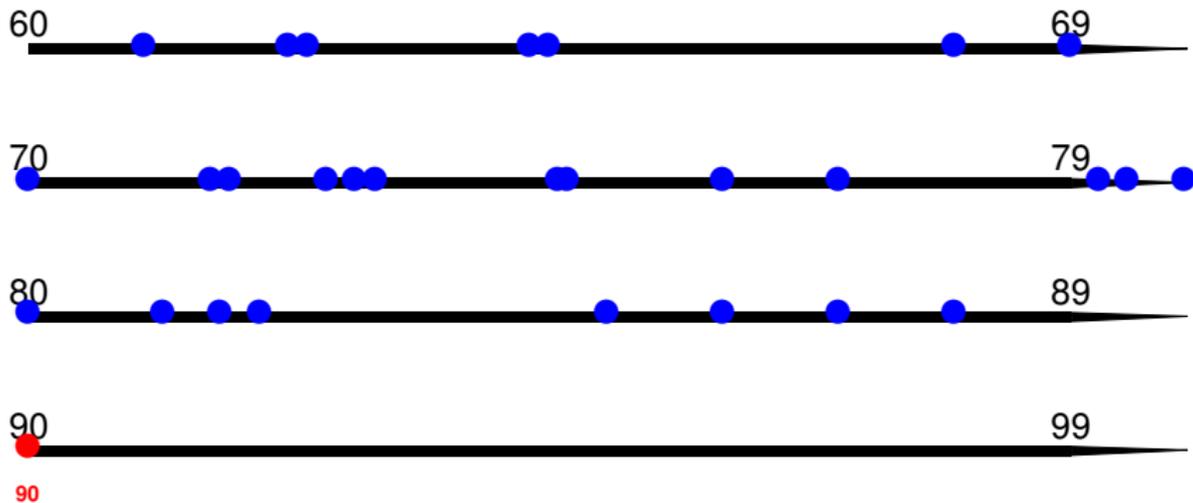
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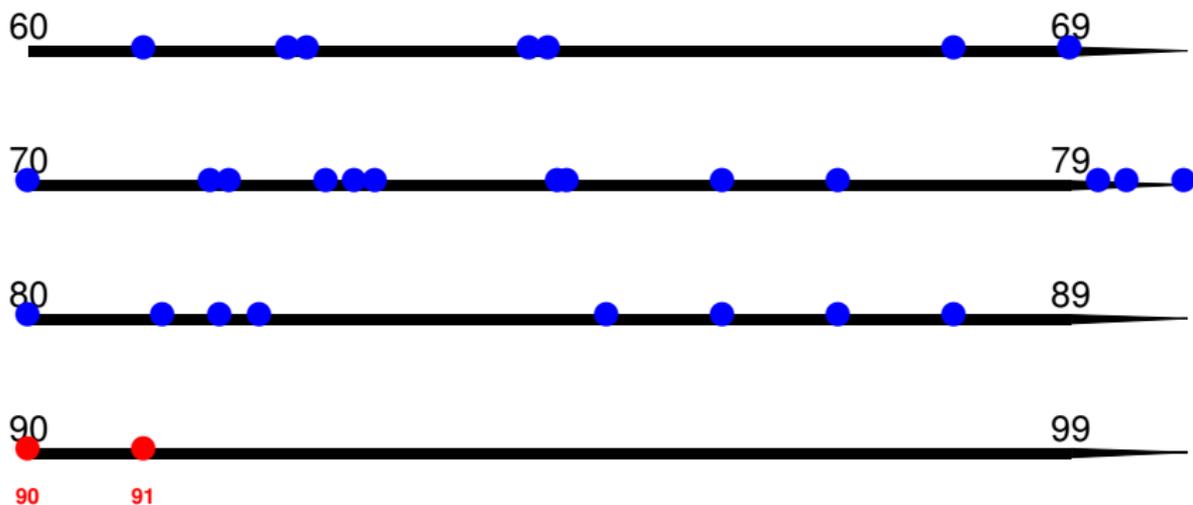
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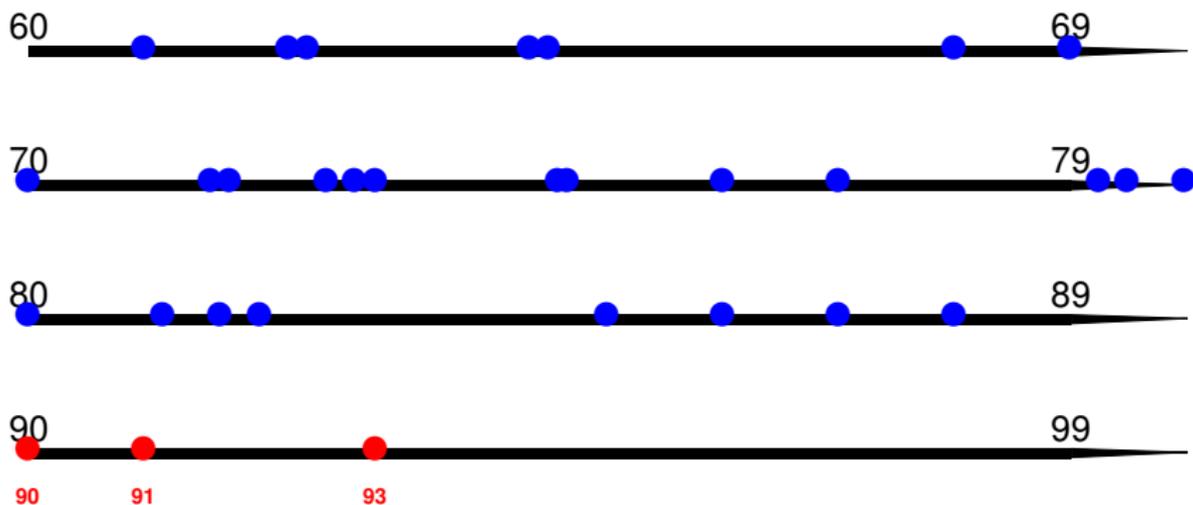
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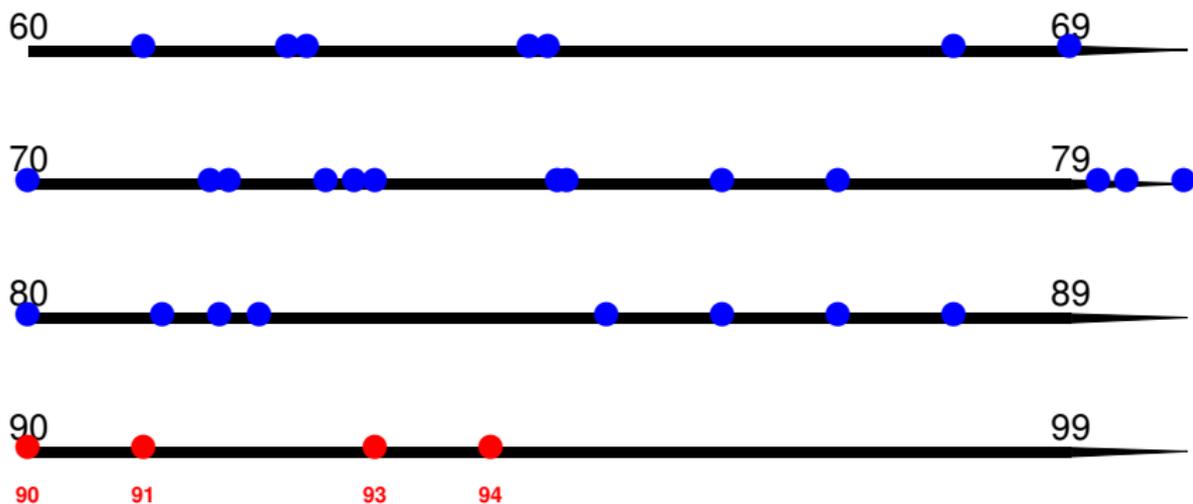
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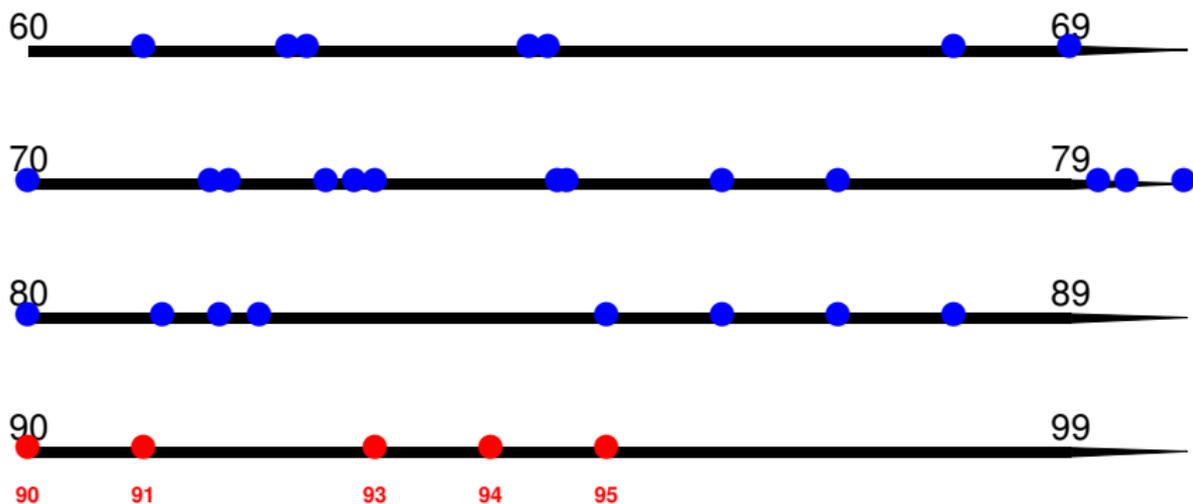
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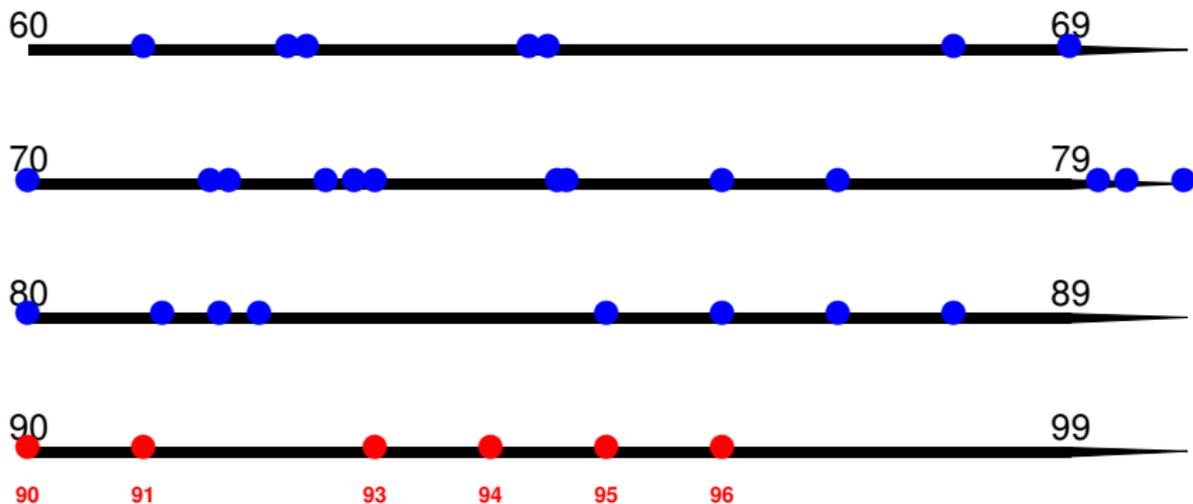
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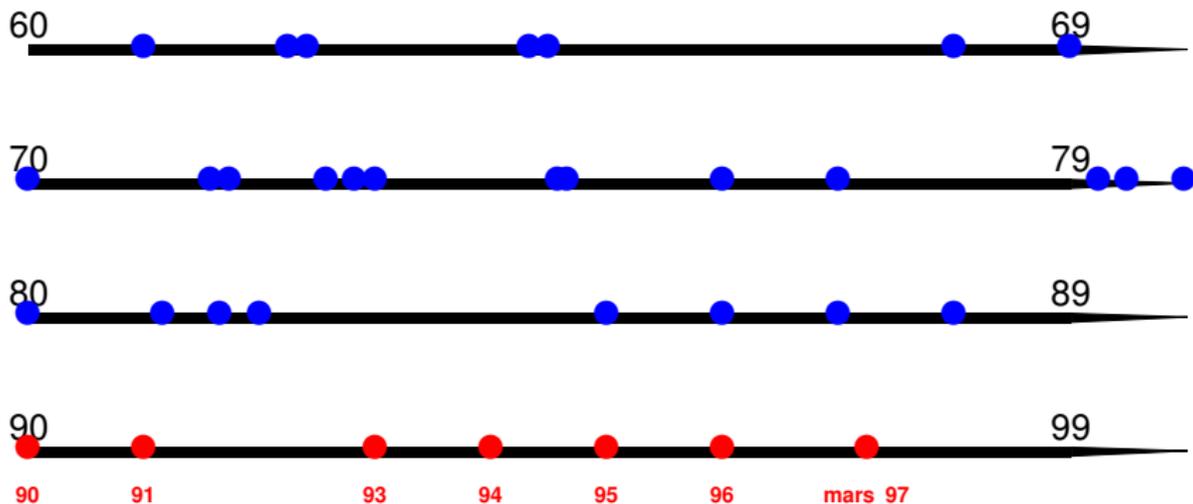
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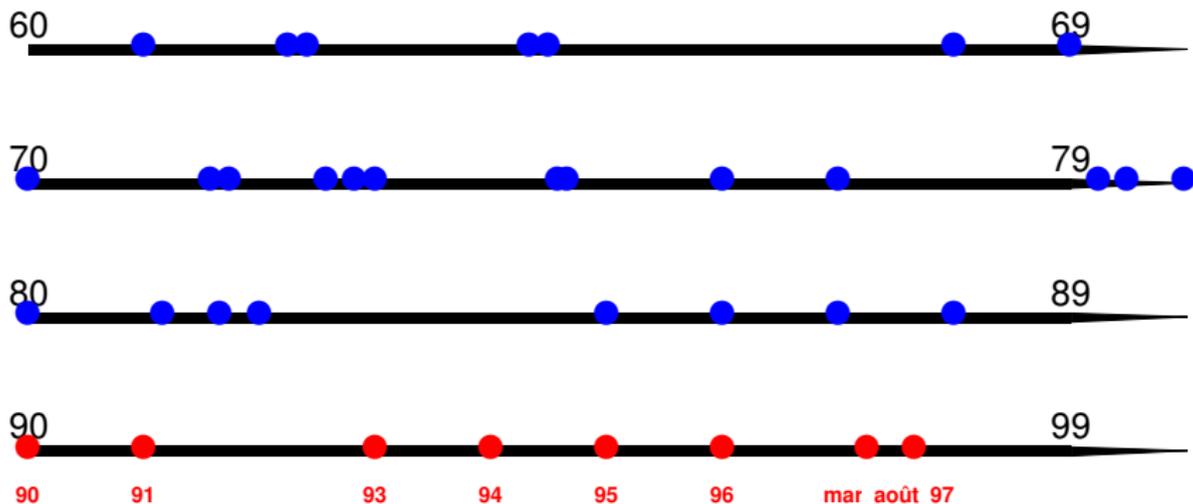
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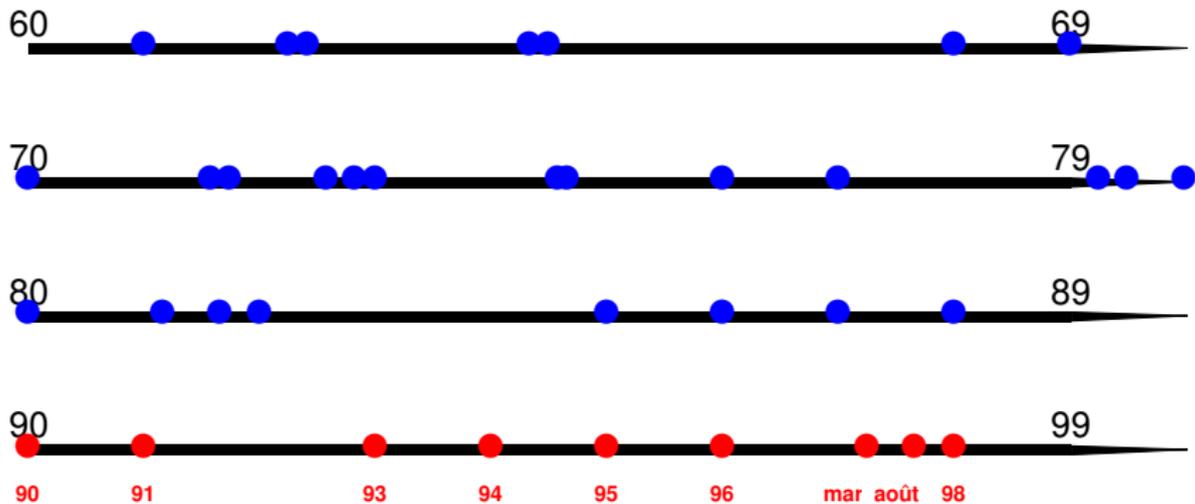
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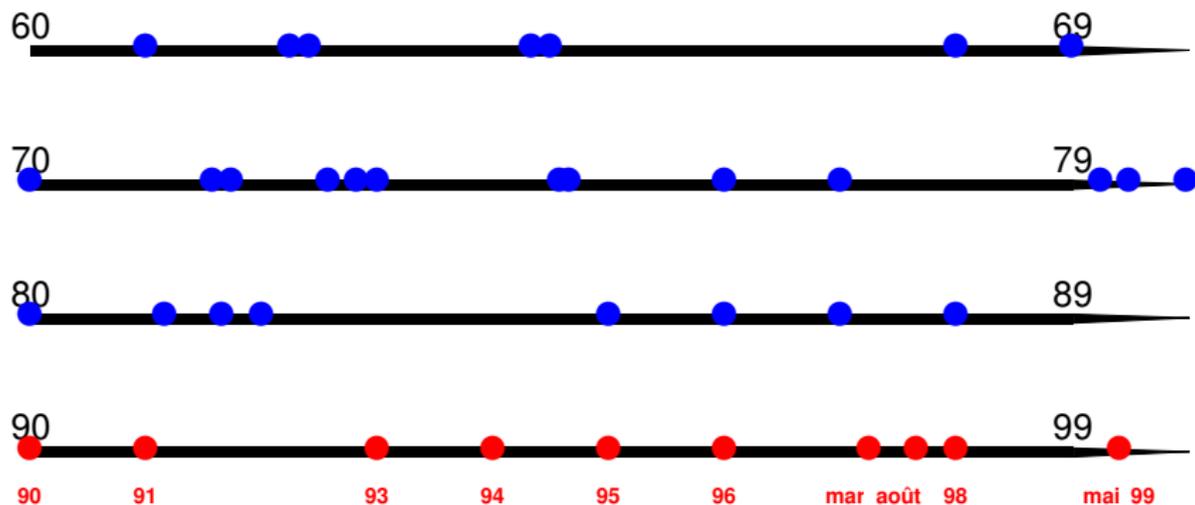
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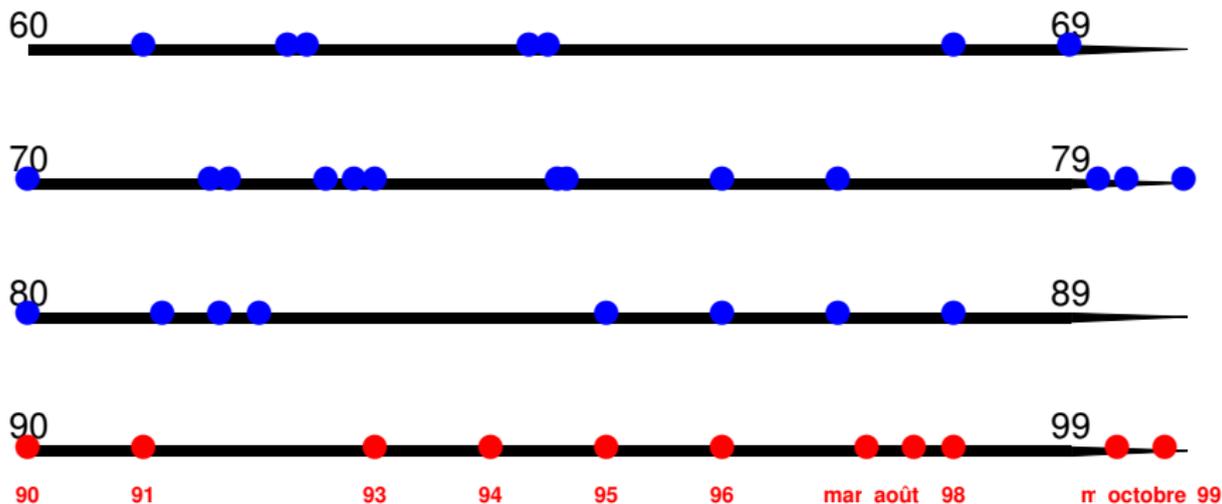
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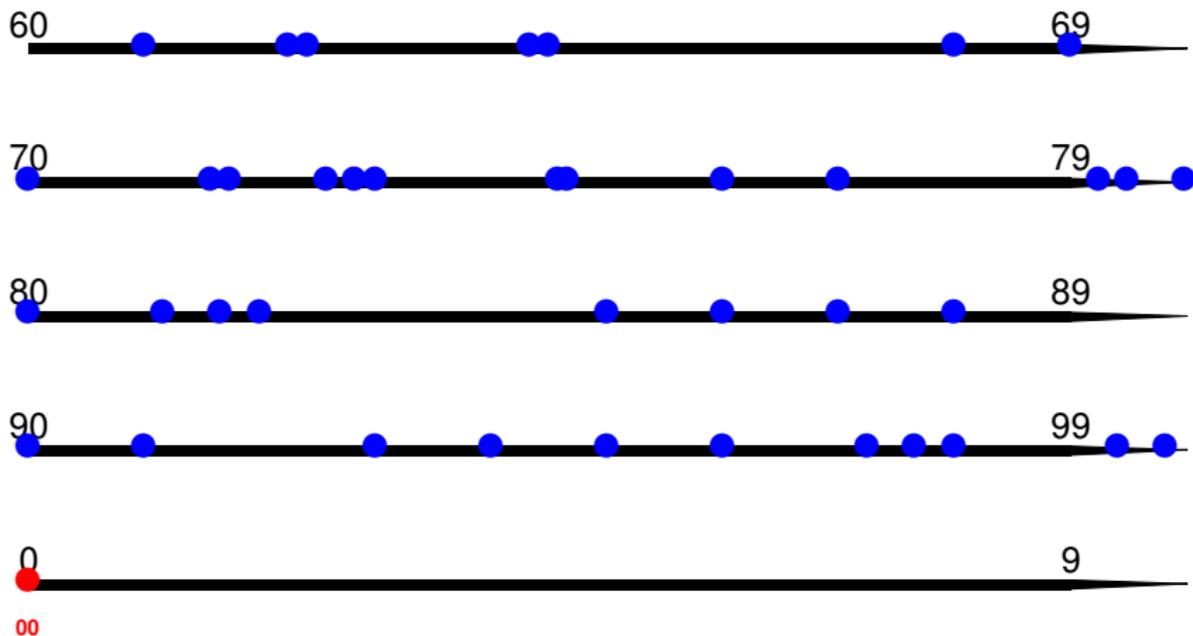
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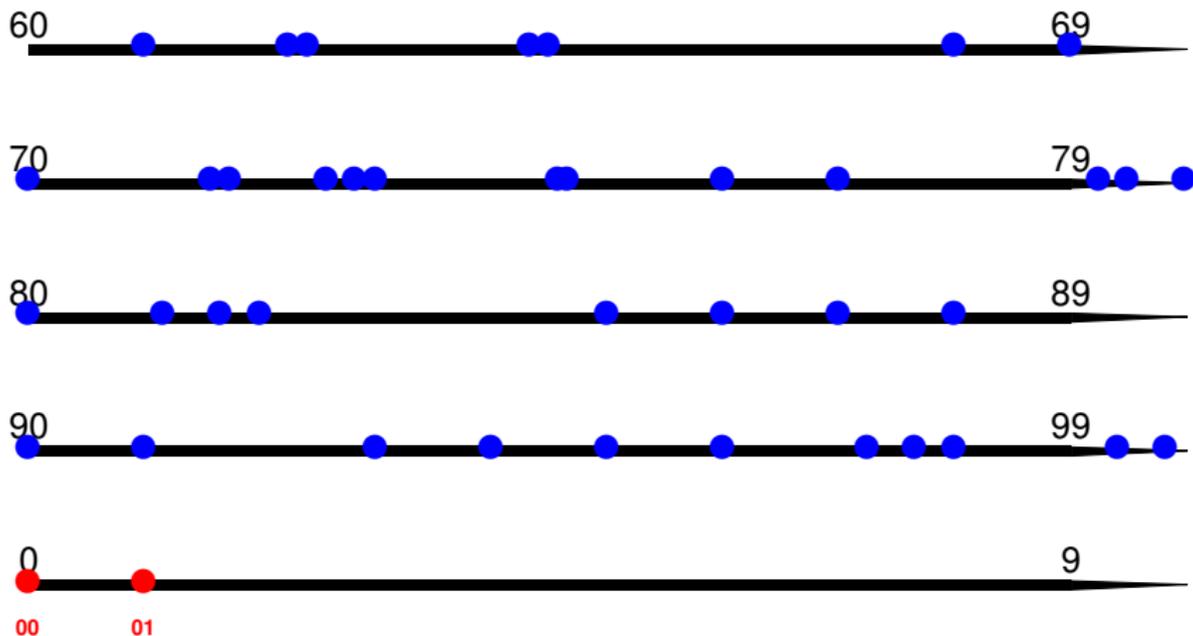
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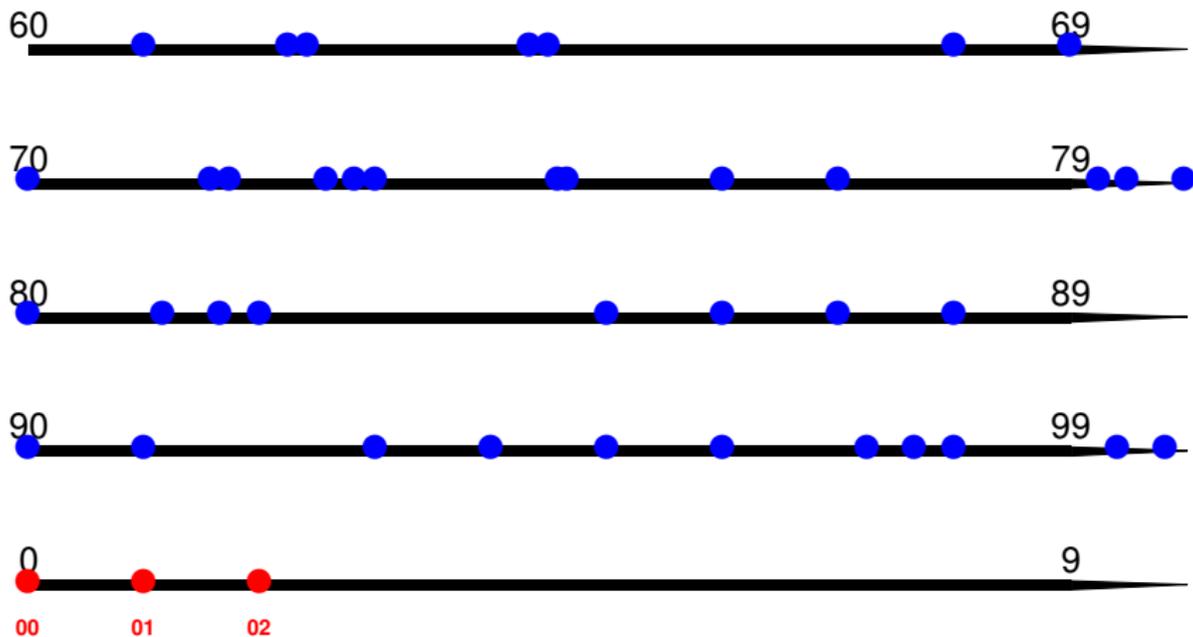
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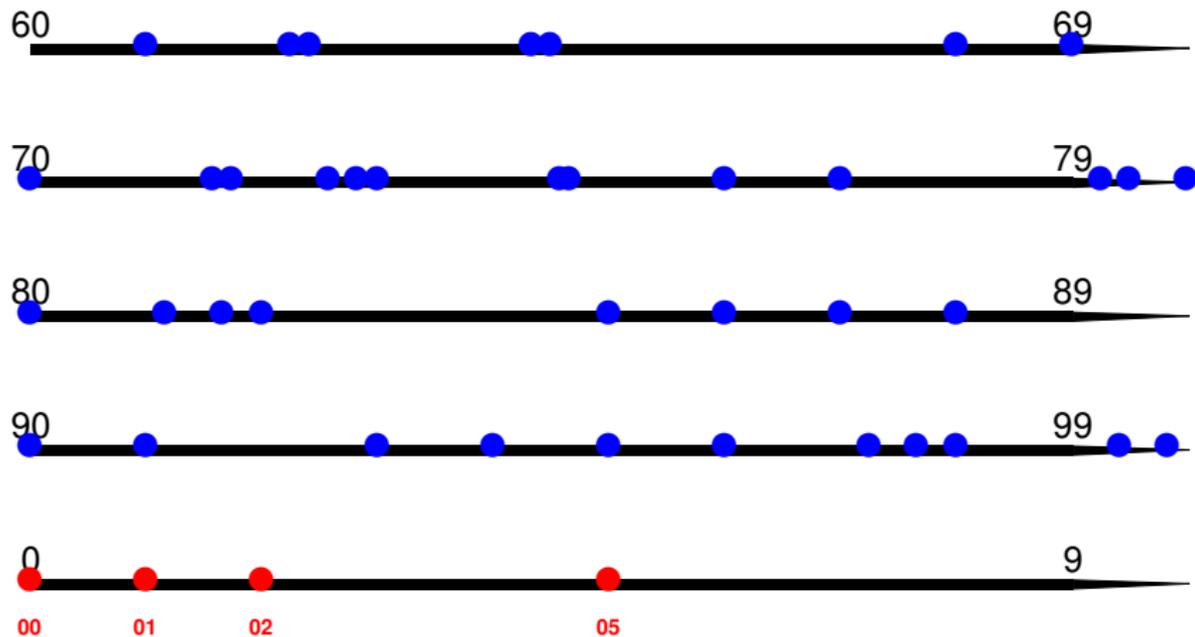
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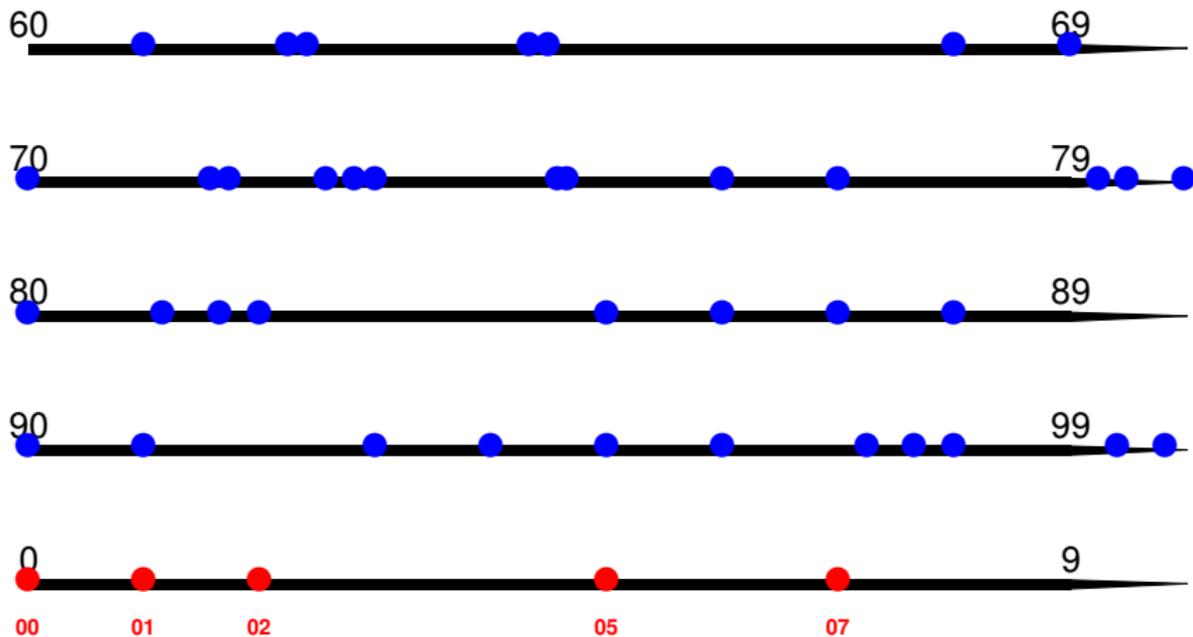
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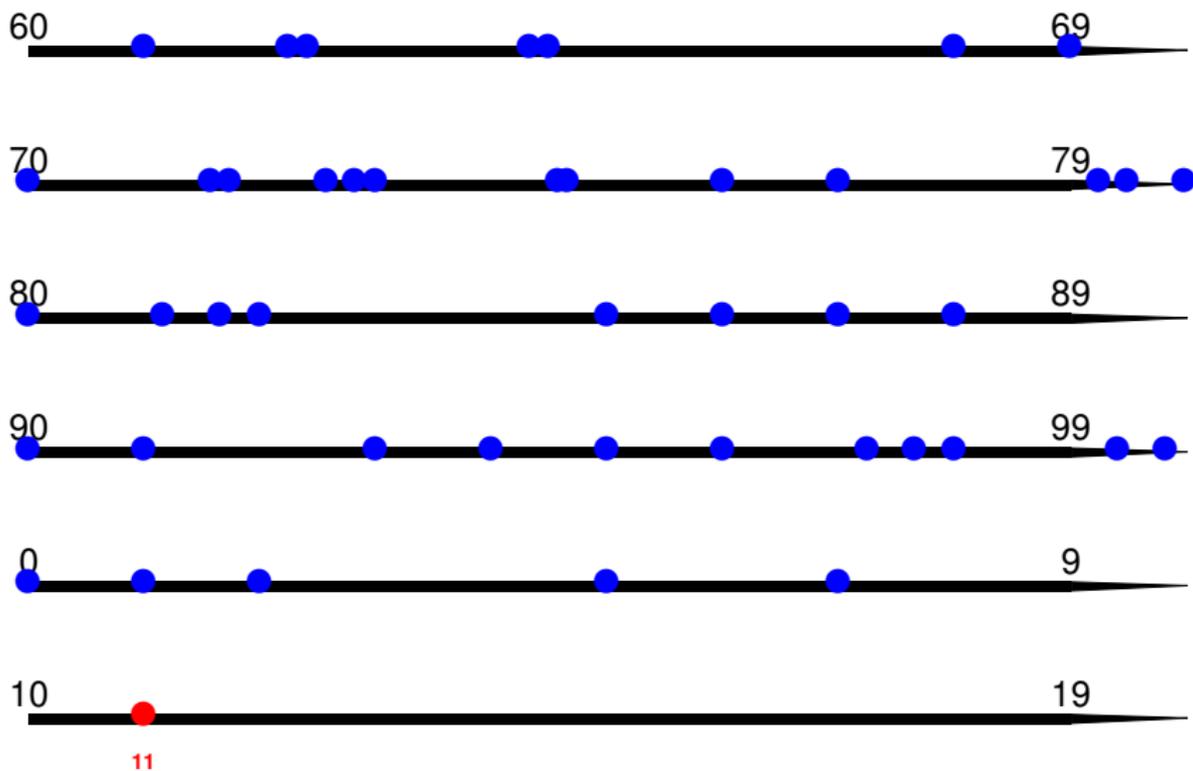
Agnes Benedek, R. Bernstein, J. Binz, T. Boerkoel, M. Brodie, K. Dale, D. Donini, M. Getz, D. Jones, J. Grossman, and et al.
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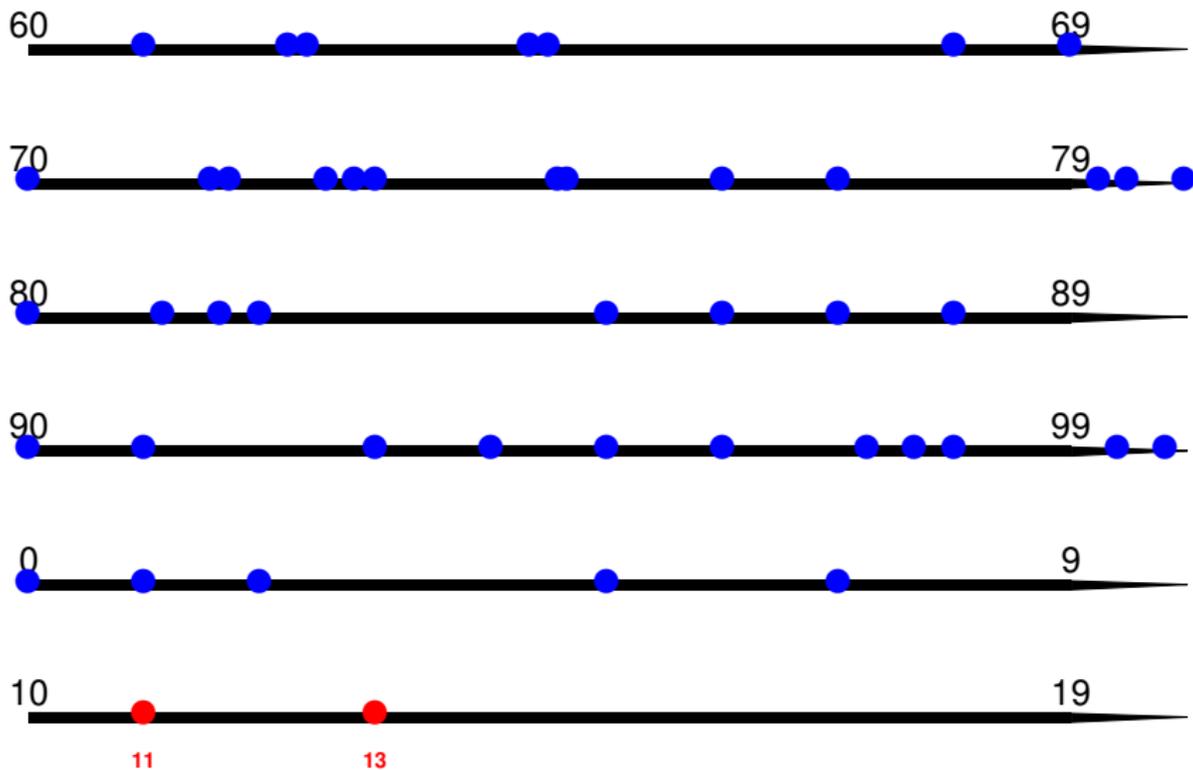
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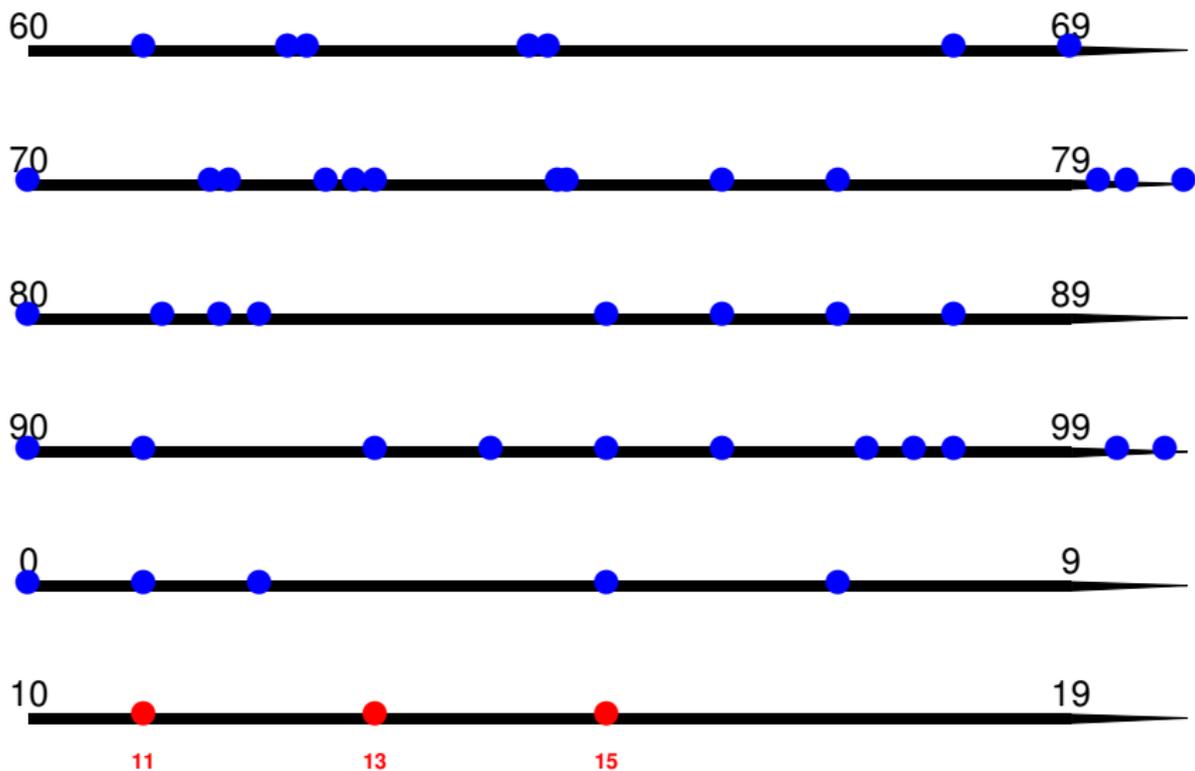
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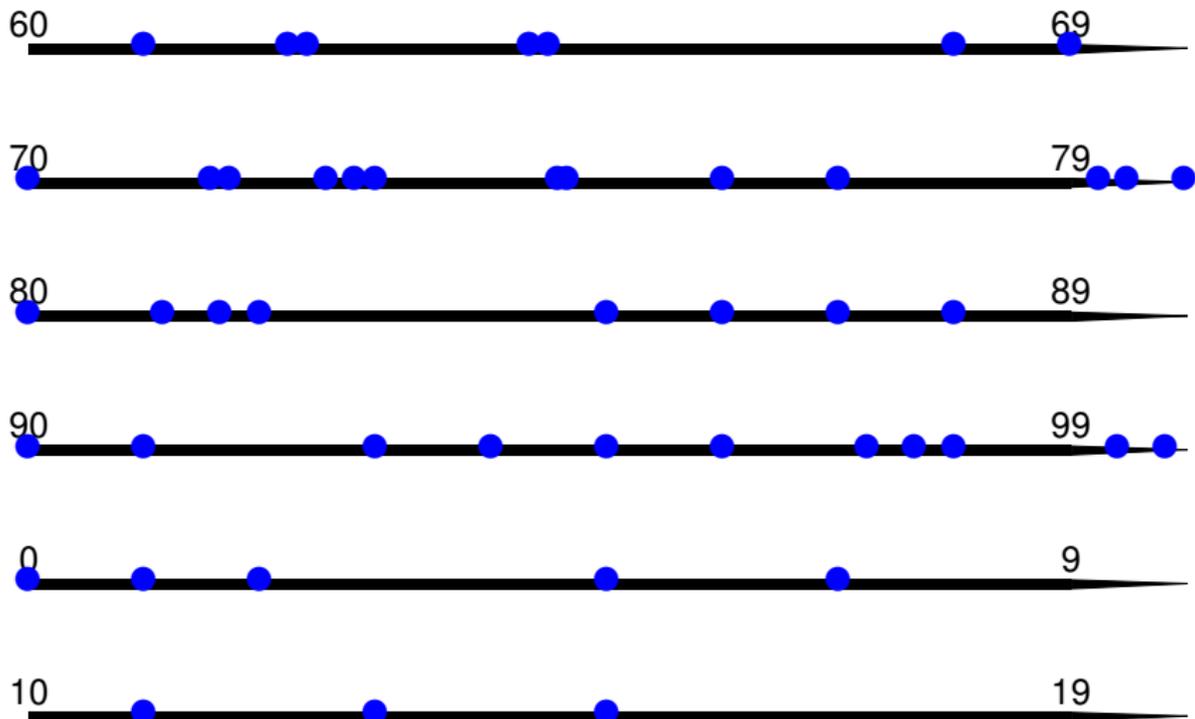


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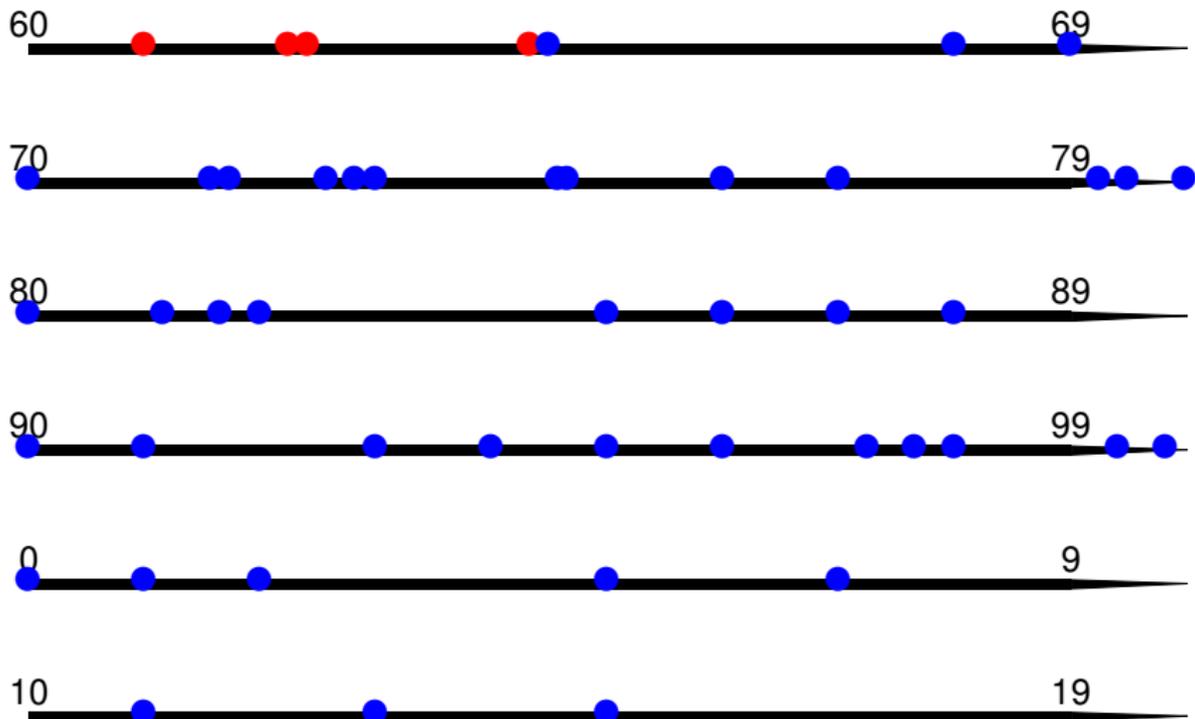
Tres formas de construcción social de matemática en tres ejemplos de la obra de Agnes

- Trascendente,
- Racional,
- Profética.

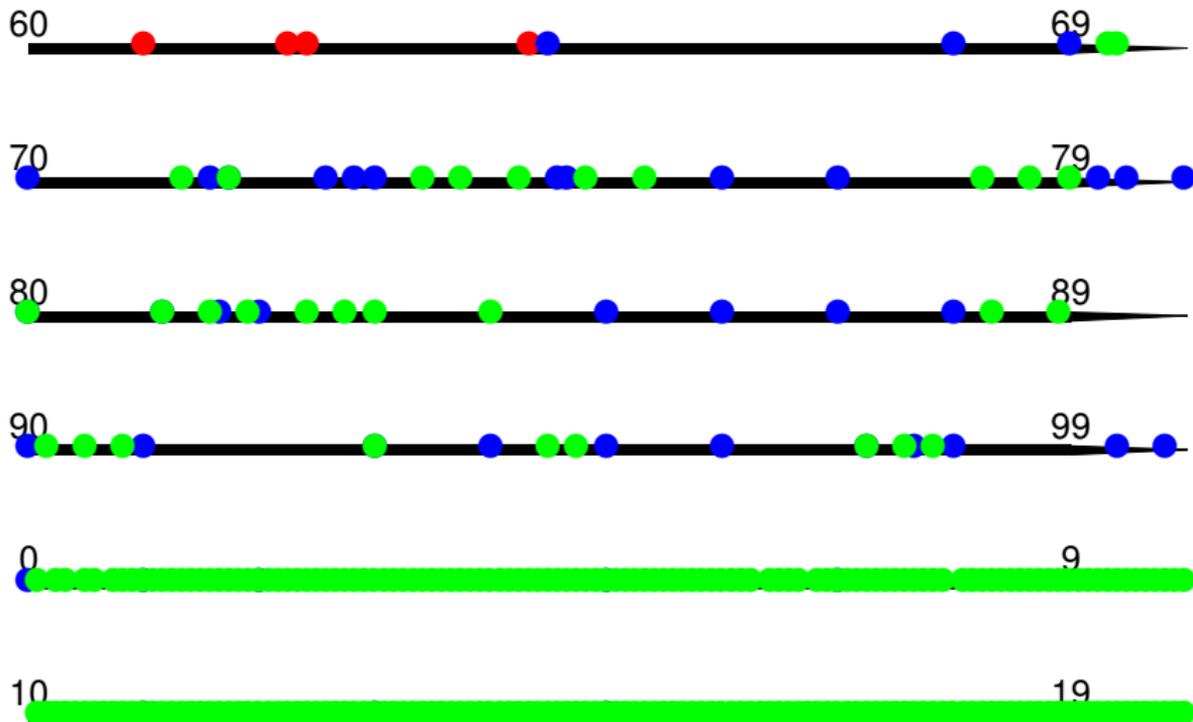
Trascendente



Trascendente



Trascendente



"Weighted Norm Inequalities and Related Topics"

José García-Cuerva, José L. Rubio de Francia
1985

CHAPTER V

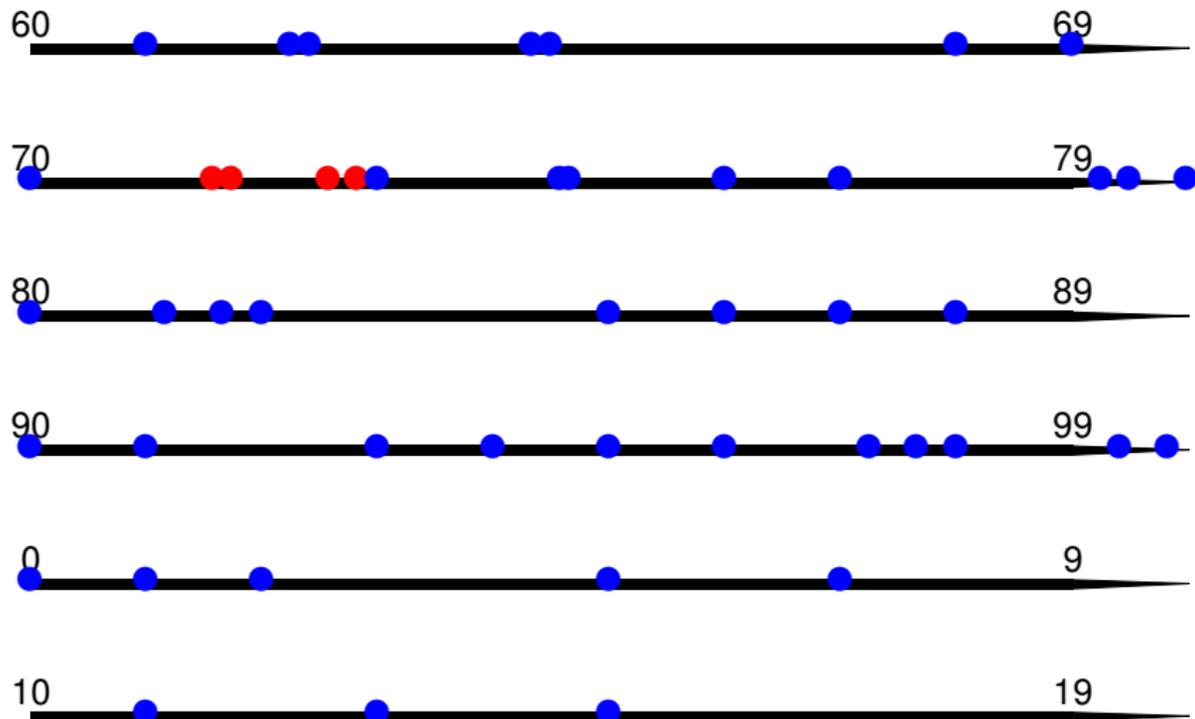
VECTOR VALUED INEQUALITIES

The estimates for the operators that we have considered so far can be formulated in the context of Banach space valued functions. The first half of this chapter is devoted to describe the general methods which allow to obtain such estimates. There are at least two reasons which motivate this type of extension (apart from the search of greater generality by its own sake):

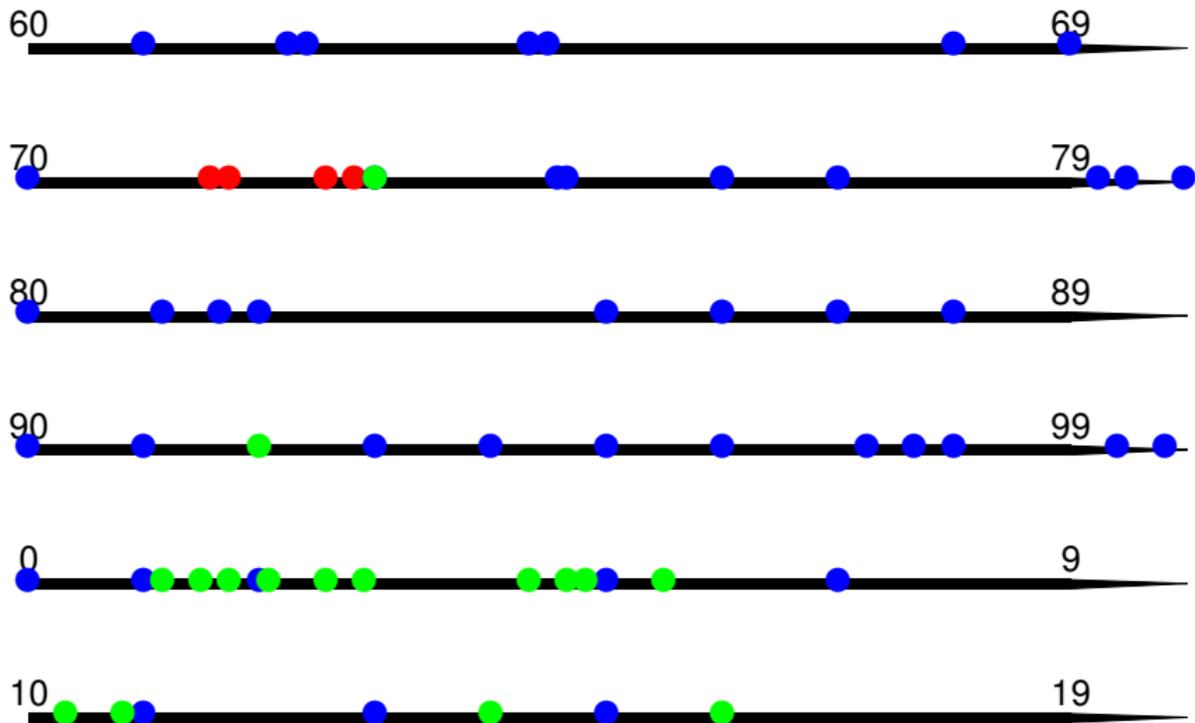
a) The non-linear operators which appear in Fourier Analysis can be viewed, in almost all cases, as linear operators whose range consists of vector valued functions. This will be the case for the maximal operators and square functions which are studied in sections 4 and 5 respectively.

b) There is an intimate connection between vector valued inequalities and weighted norm inequalities. We begin to explore this connection in the last section, but further insight will be gained with the theory to be developed in Chapter VI.

Racional



Racional



Hardy - Littlewood

$$Mf(x) = \sup_{x \in Q} \frac{1}{|Q|} \int_Q |f| dy$$

$$M : L^p(\mathbb{R}^n) \rightarrow L^p(\mathbb{R}^n)$$

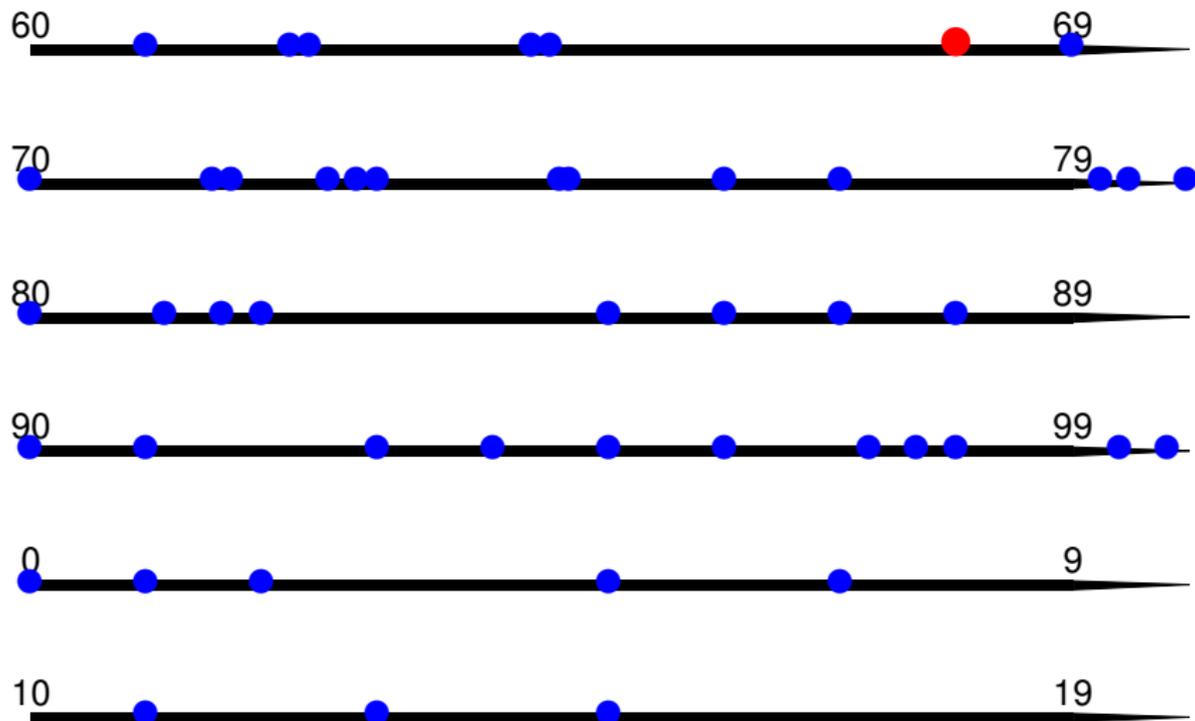
$$\left(\int_Q w \right) \left(\int_Q w^{-\frac{1}{p-1}} \right)^{p-1} \approx |Q|^\alpha$$



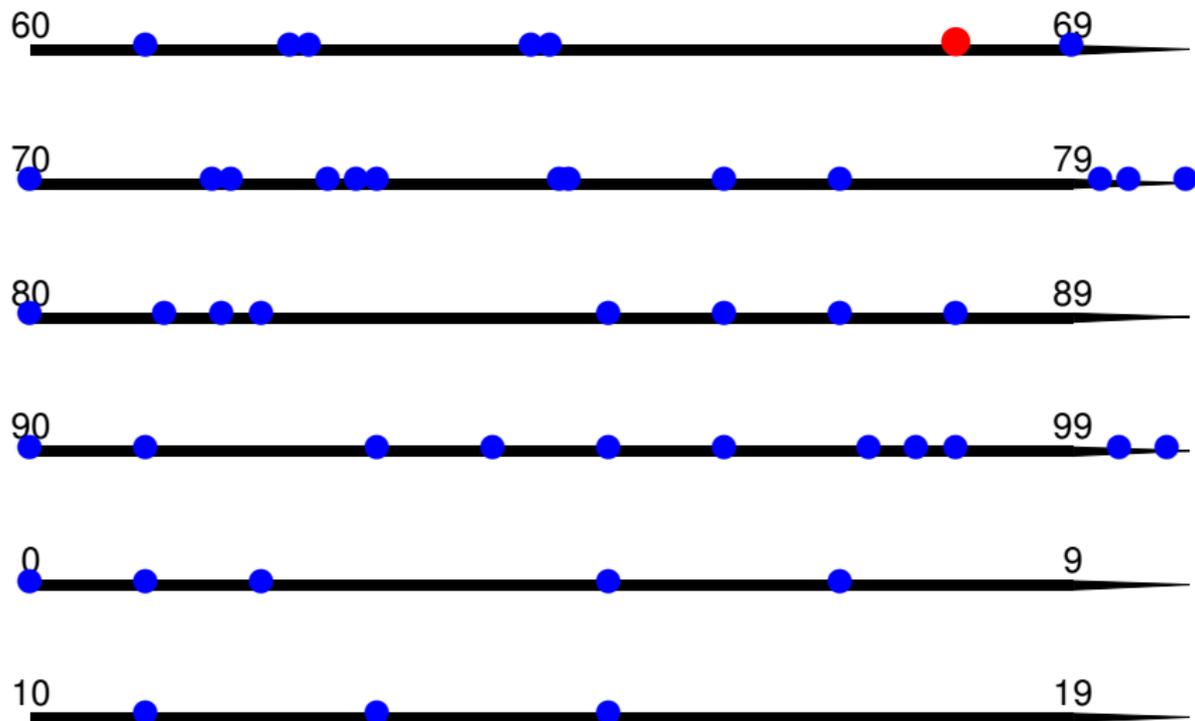
$$M: L^p(w) \rightarrow L^1(w)$$

$$1 < p < \infty$$

Profética

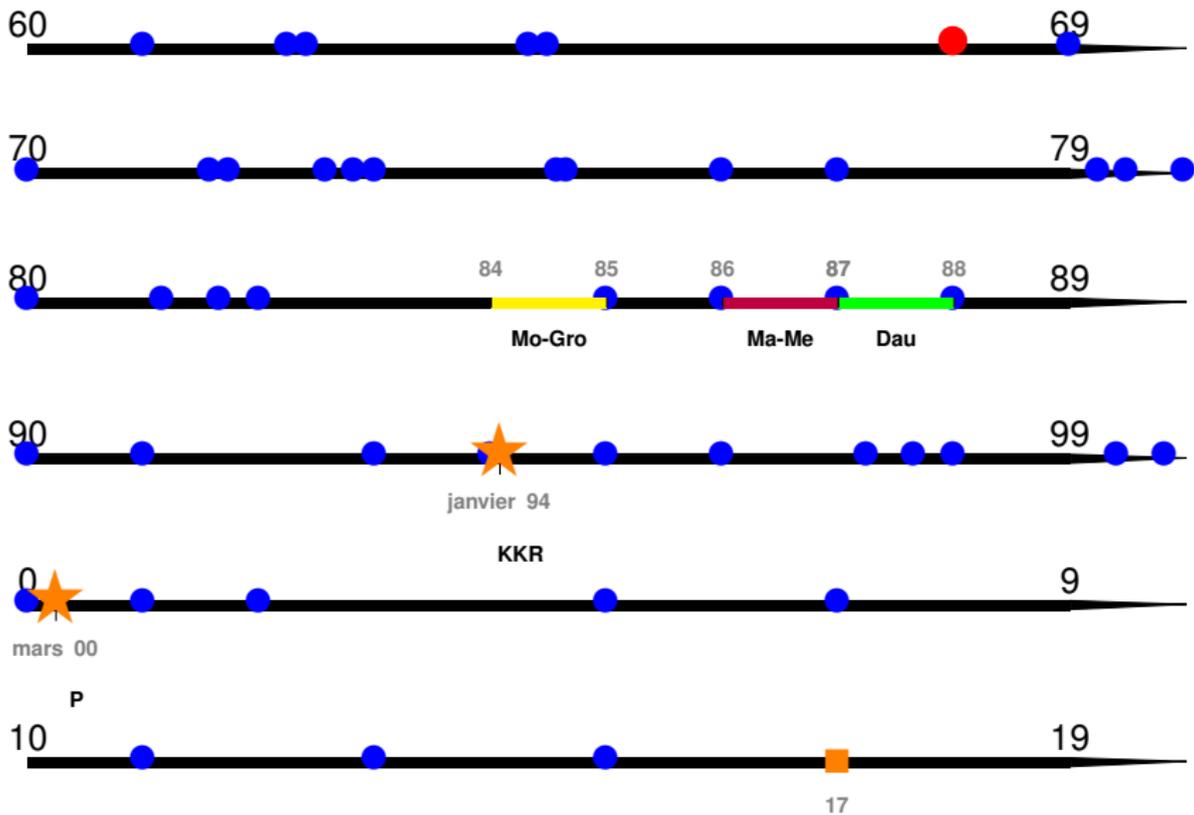


Profética



A. Benedek and R. Panzone. A note on Haar series and Markoff processes. *J. Math. Analysis and Applications*, 23:665–682, 1968.

Profética



A note on Haar
Series
&
Markov Processes

A. Benedek
&
R. Pagnone

IMAA 23 - 1968

. Doob

1968

. Rosenkrantz \notin CS

. Price

positividad del núcleo
de Dirichlet asociado
la sumabilidad en la
base de Haar

1994 - Kelly, Kon, Raphael

"Pointwise convergence of wavelet expansions"

"It is shown that unlike the Fourier summation kernel, wavelet summation kernels are bounded by radial decreasing L^1 convolution kernels"

$$h = \chi_{[0, \frac{1}{2})} - \chi_{[\frac{1}{2}, 1)}$$

$$I = [k2^{-j}, (k+1)2^{-j}) \in \mathcal{D}$$

$$h_I(x) = 2^{j/2} h(2^j x - k)$$

$$\mathcal{H} = \{h_I : I \in \mathcal{D}\} \quad \text{b.o.n. } L^2$$

$$f = \sum_{I \in \mathcal{D}} \langle f, h_I \rangle h_I$$

2000

S. Petermichl

$$Pf(x) = \sum_{I \in \mathcal{D}} \langle f, h_I \rangle (h_{I^-}(x) - h_{I^+}(x))$$

$$K(x, y) = \sum_{I \in \mathcal{D}} h_I(y) (h_{I^-}(x) - h_{I^+}(x))$$

Hogar, dulce hogar...

$$\frac{1}{x-y} = \int_{\Omega} K_{\omega}(x, y) dP(\omega)$$

$$K_{\omega}(x, y) = \sum_{I \in \mathcal{D}_{\omega}} h_I(y) (h_{I^-}(x) - h_{I^+}(x))$$

$\{\mathcal{D}_{\omega} : \omega \in \Omega\}$ familia de familias diádicas

Continuity Properties of the Hilbert Transform

A. BENEDEK AND R. PANZONE

Instituto de Matematica, Universidad Nacional del Sur, Bahia Blanca, Argentina

Communicated by Alberto P. Calderón

Received March, 1969

It is shown that for certain measures $\mu(dx)$, $-\infty < x < \infty$, the Hilbert transform $Hf = P.V. 1/x * f$ is continuous in $L^p(\mu(dx))$ whenever $1 < p < \infty$. To accomplish this it is proved that for any measurable set E

$$\mu\{x; |H1_E| > \lambda\} \leq \mu(E)/\sigma(\lambda), \quad \lambda > 0,$$

holds, where $\sigma(\lambda)$ is a positive function that grows exponentially when $\lambda \rightarrow \infty$ and $\sigma(\lambda) \sim \lambda$ when $\lambda \rightarrow 0$. A particular case of this theorem is the known result that the Hilbert transform is a continuous operator on $L^p(|x|^\alpha dx)$ for $1 < p < \infty$, $-1 < \alpha < p - 1$. This is complemented as follows. Let $-\infty < \alpha < \infty$ and $1 \leq p < \infty$; then H is a continuous operator in $L^p(|x|^\alpha dx)$ only if $\sup(1, 1 + \alpha) < p < \infty$. An application to a multiplier operator is given.

Acabo de escribir infinita. No he interpolado ese adjetivo por una costumbre retórica; digo que no es ilógico pensar que el mundo es infinito. Quienes lo juzgan limitado, postulan que en lugares remotos los corredores y escaleras y hexágonos pueden inconcebiblemente cesar, lo cual es absurdo. Quienes la imaginan sin límites, olvidan que los tiene el número posible de libros. Yo me atrevo a insinuar esta solución del antiguo problema: La biblioteca es ilimitada y periódica. Si un eterno viajero la atravesara en cualquier dirección, comprobaría al cabo de los siglos que los mismos volúmenes se repiten en el mismo desorden (que, repetido, sería un orden: el Orden). Mi soledad se alegra con esa elegante esperanza.

JLB

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