Calcular Medianas (L [1 , ... , n])

CalcularMedianas(L[1,...,n])

CalcularMedianas($L[1, \ldots, n]$)

$\frac{n}{2} \log \frac{n}{2}$

CalcularMediana$(L[1,\dots,n])$

$\sqrt{n}$ $\quad$ $n^{\frac{1}{2}} \log n^{\frac{1}{2}}$ $\quad$ $\frac{n}{2} \log \frac{n}{2}$

$= \frac{1}{2}\sqrt{n} \cdot \log n \in O(n)$

CalcolaMediana(L[1,...,n])

$\sqrt{n}$ $\quad n^{\frac{1}{2}} \log n^{\frac{1}{2}}$ $\quad \frac{n}{2} \log \frac{n}{2}$

$= \frac{1}{2}\sqrt{n} \cdot \log n \in O(n)$

CalcularMedianas(L[1,...,n]) $\lceil n^{\frac{3}{4}} \rceil$

$\sqrt{n}$ $n^{\frac{1}{2}} \log n^{\frac{1}{2}}$ $\frac{n}{2} \log \frac{n}{2}$

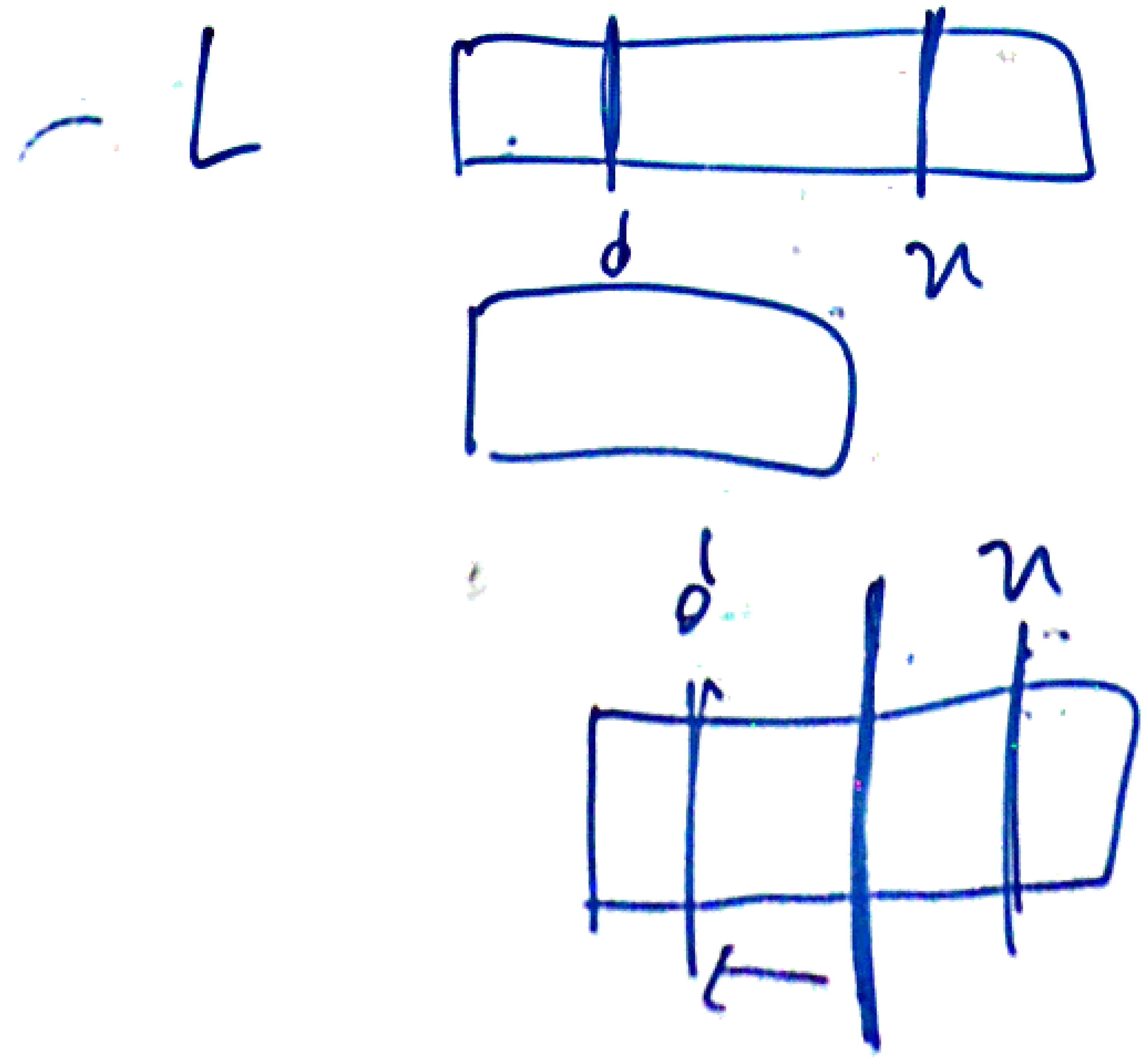
$= \frac{1}{2} \sqrt{n} \cdot \log n \in O(n)$

CalcularMedianas(L[1,...,n])

[3]

[3]

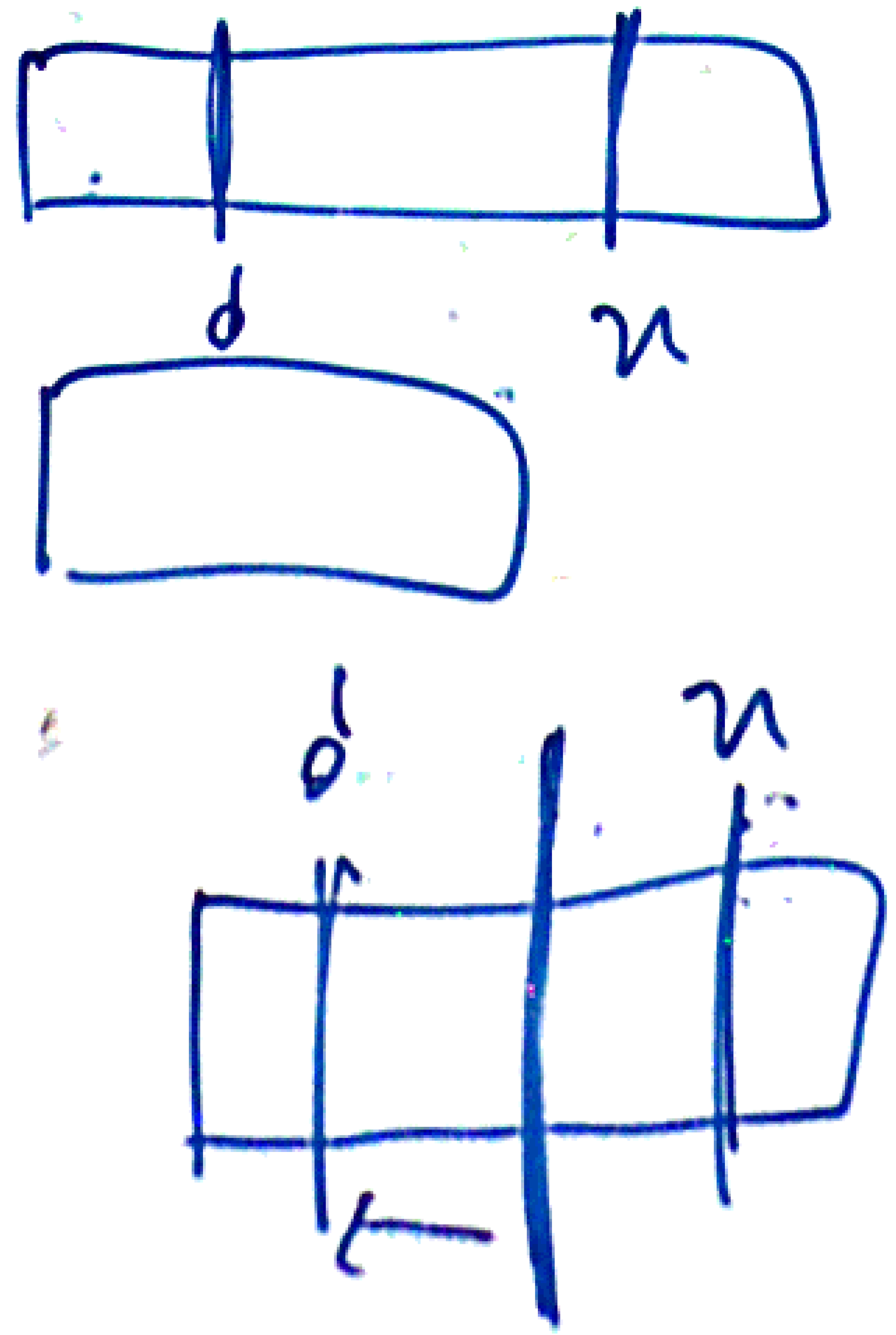
Calcular Mediana (L[1,...,n])



[3]

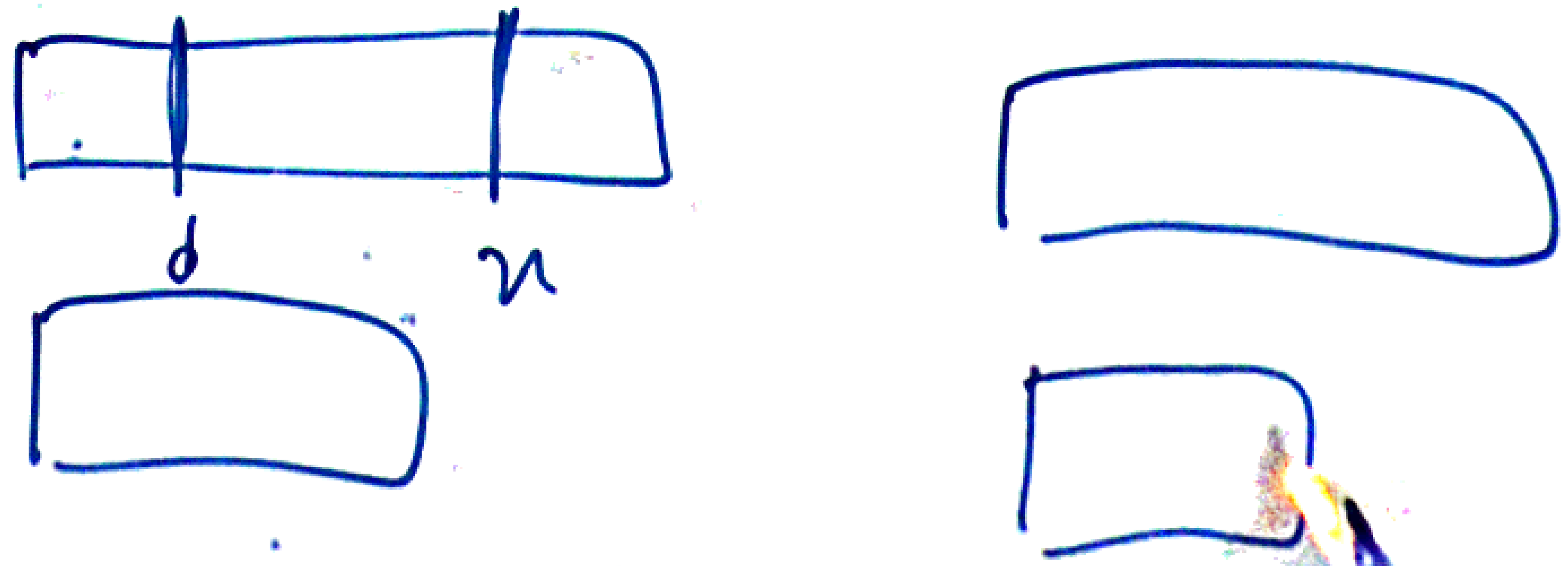
Calcular Mediana (L[1,...,n])

- L



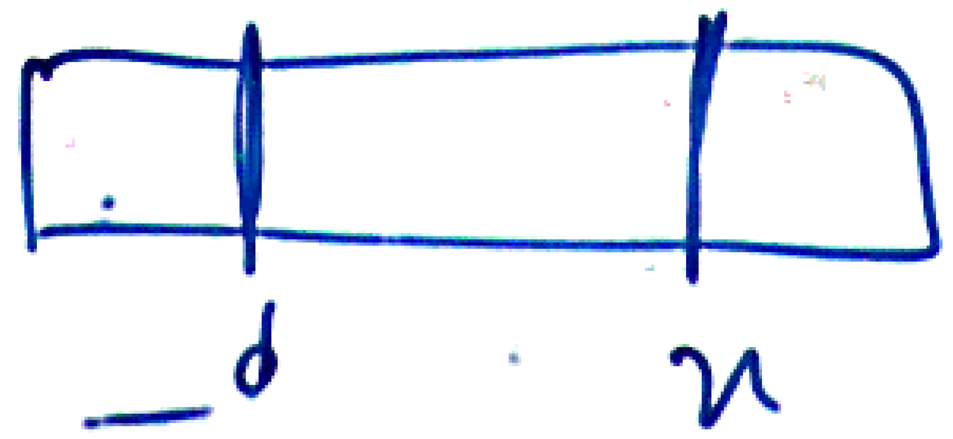
Calcular Mediana $(L[1, ..., n])$

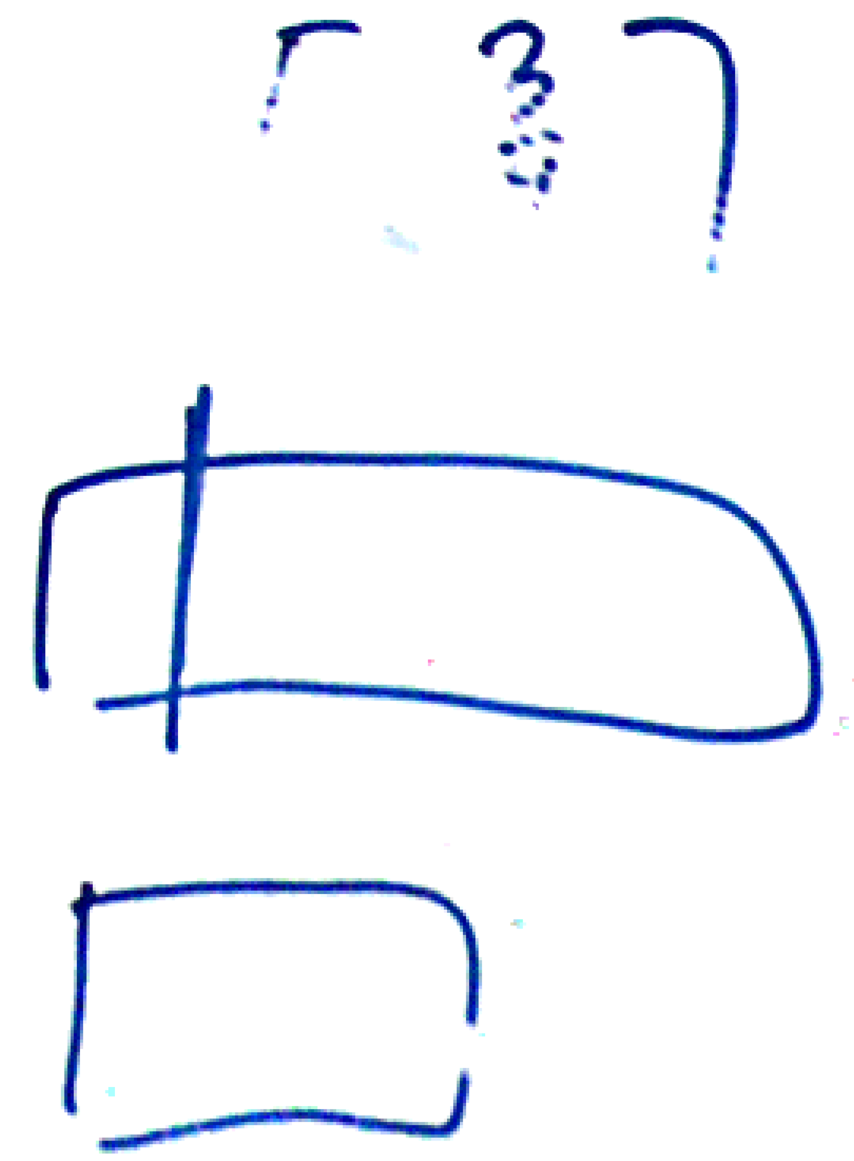
L



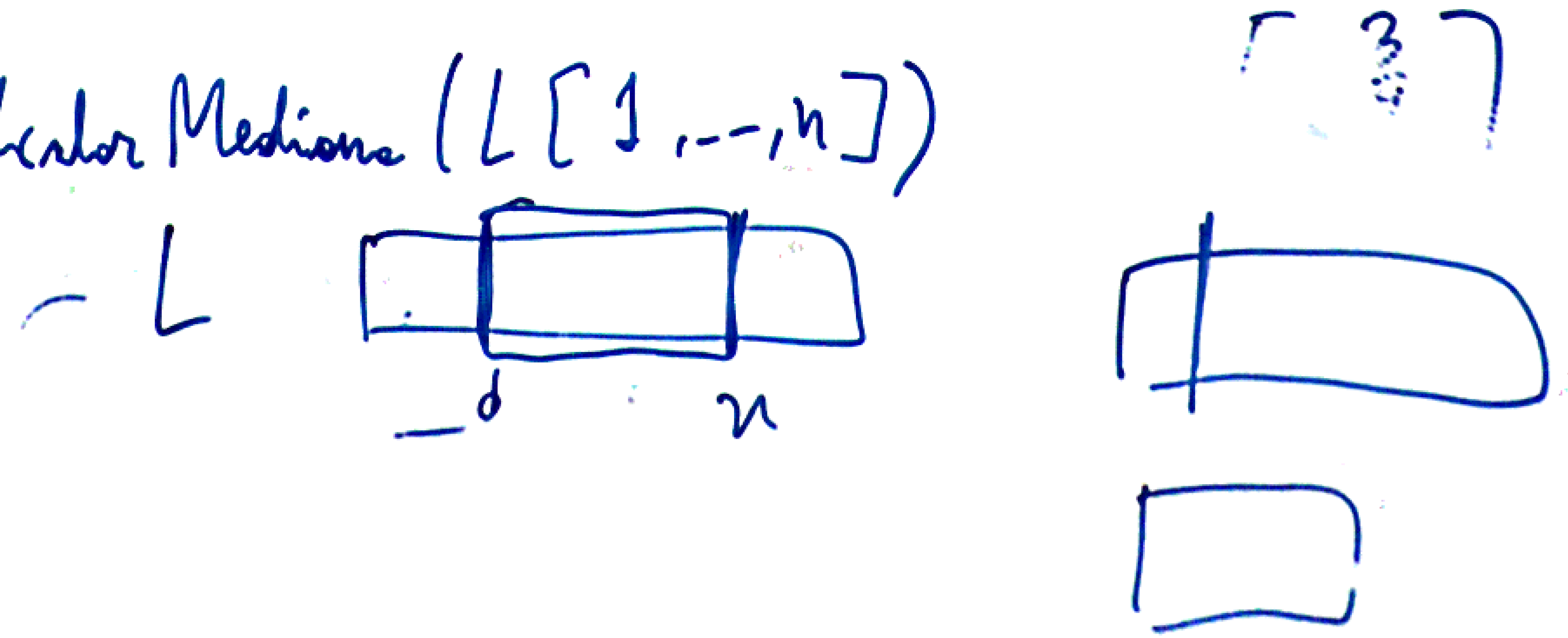
CalcularMediana(L[1,...,n])

- L





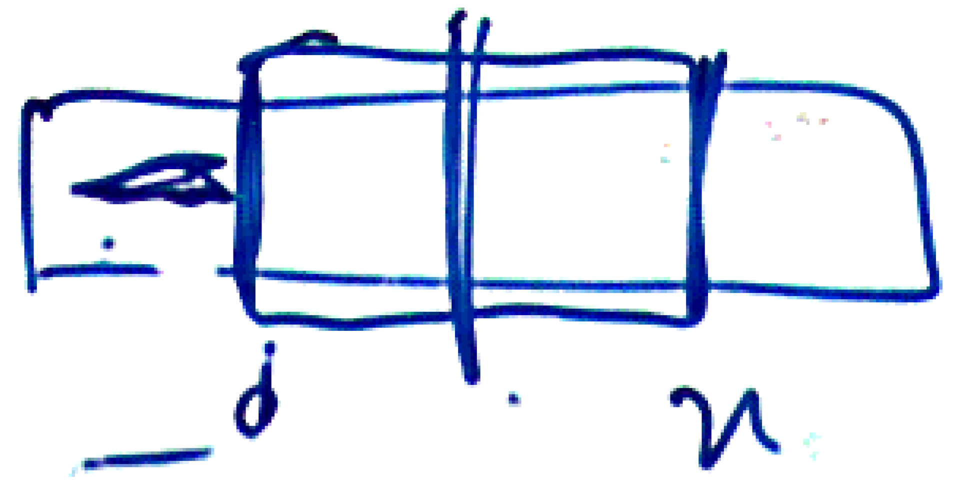
CalcularMediana(L[1,...,n])

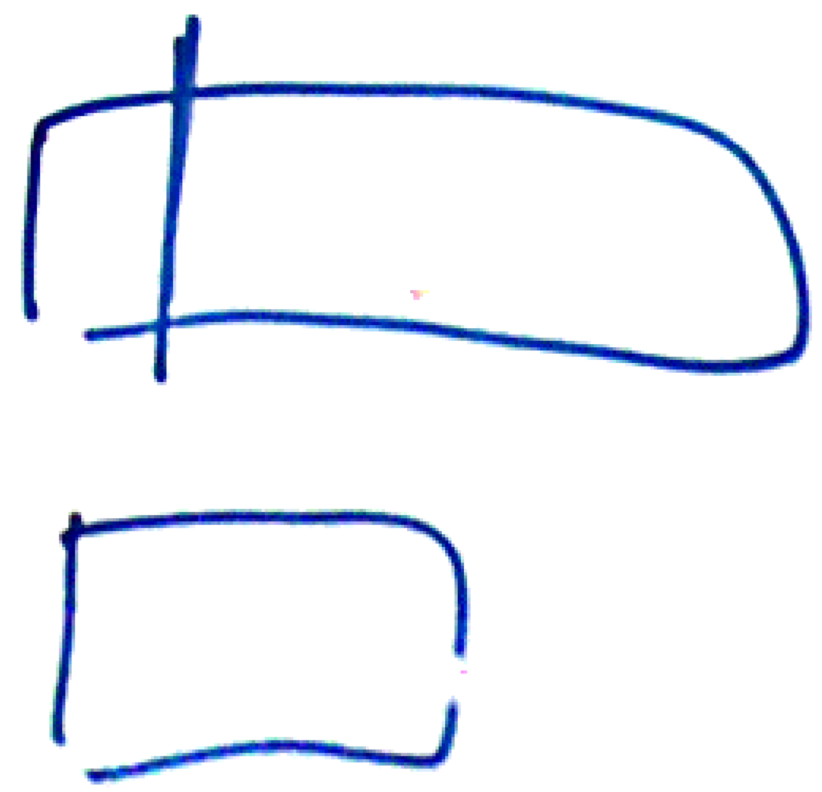


Calcular Mediana (L[1,...,n])

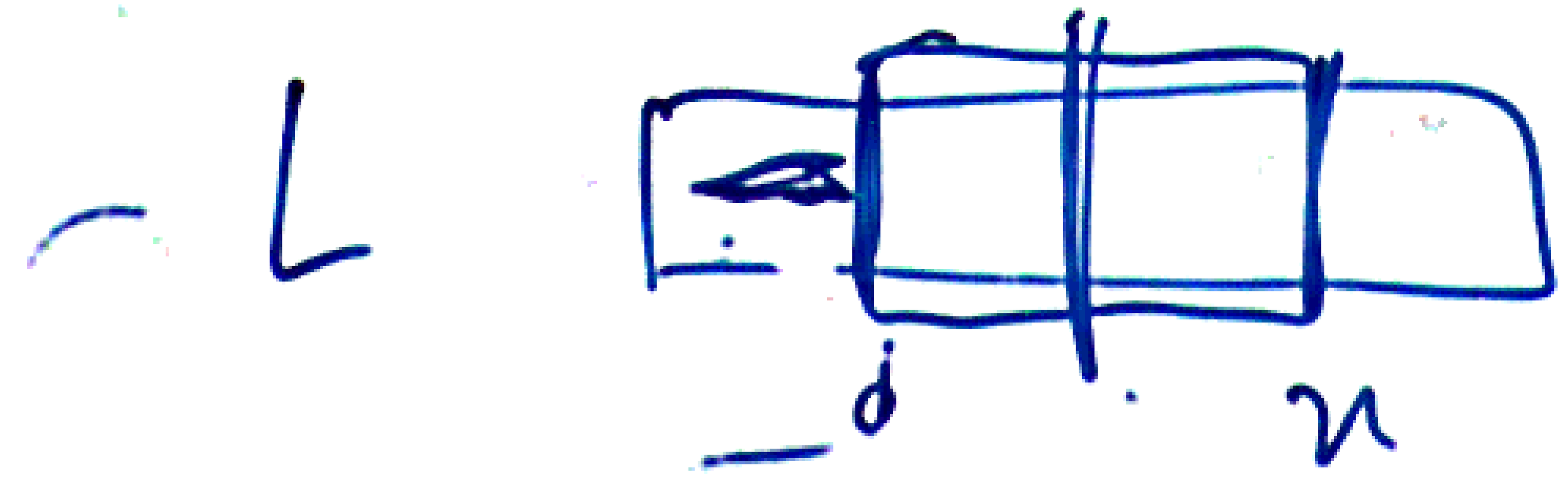
[3]

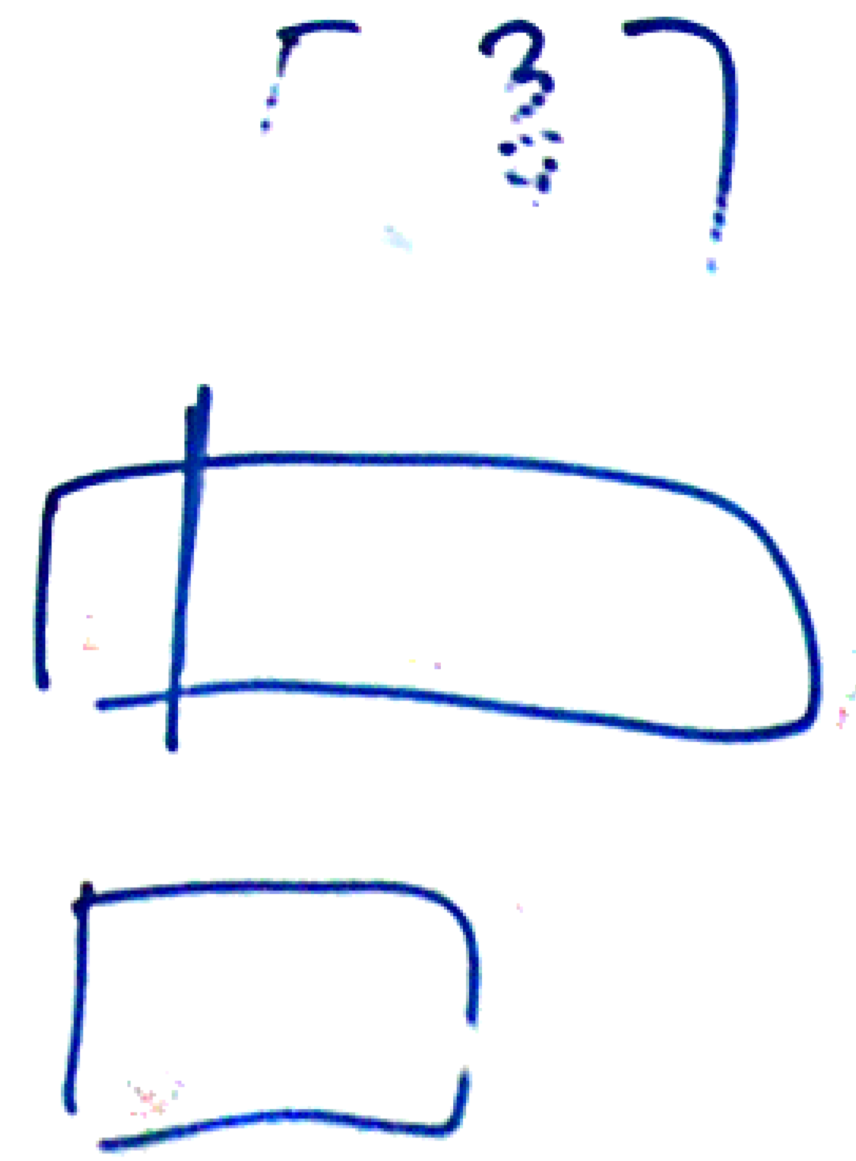
L



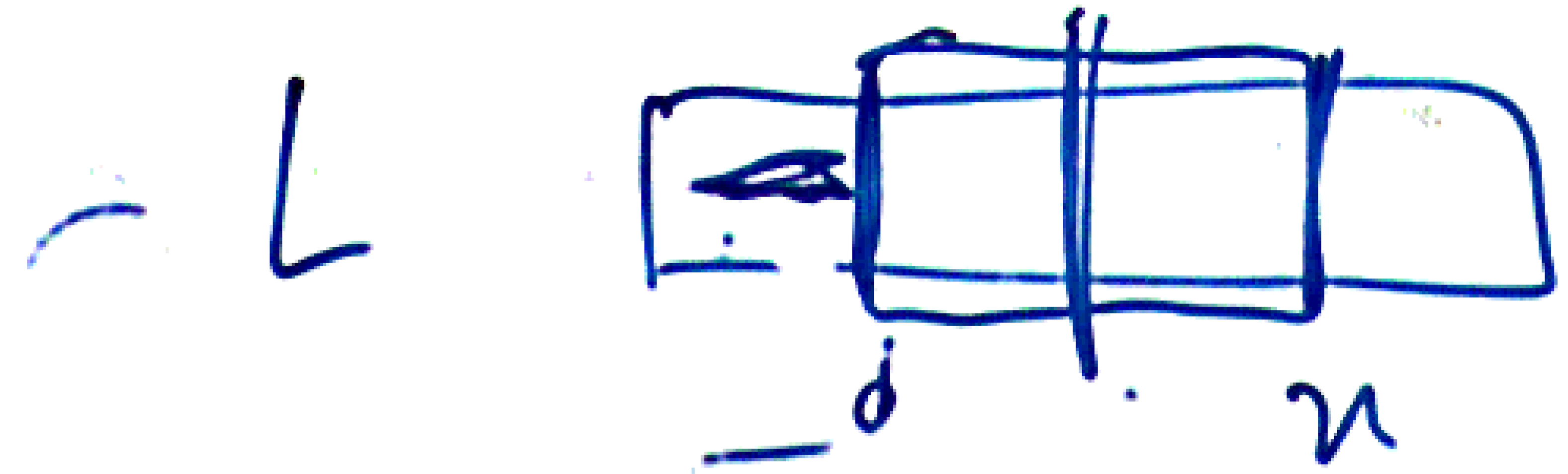


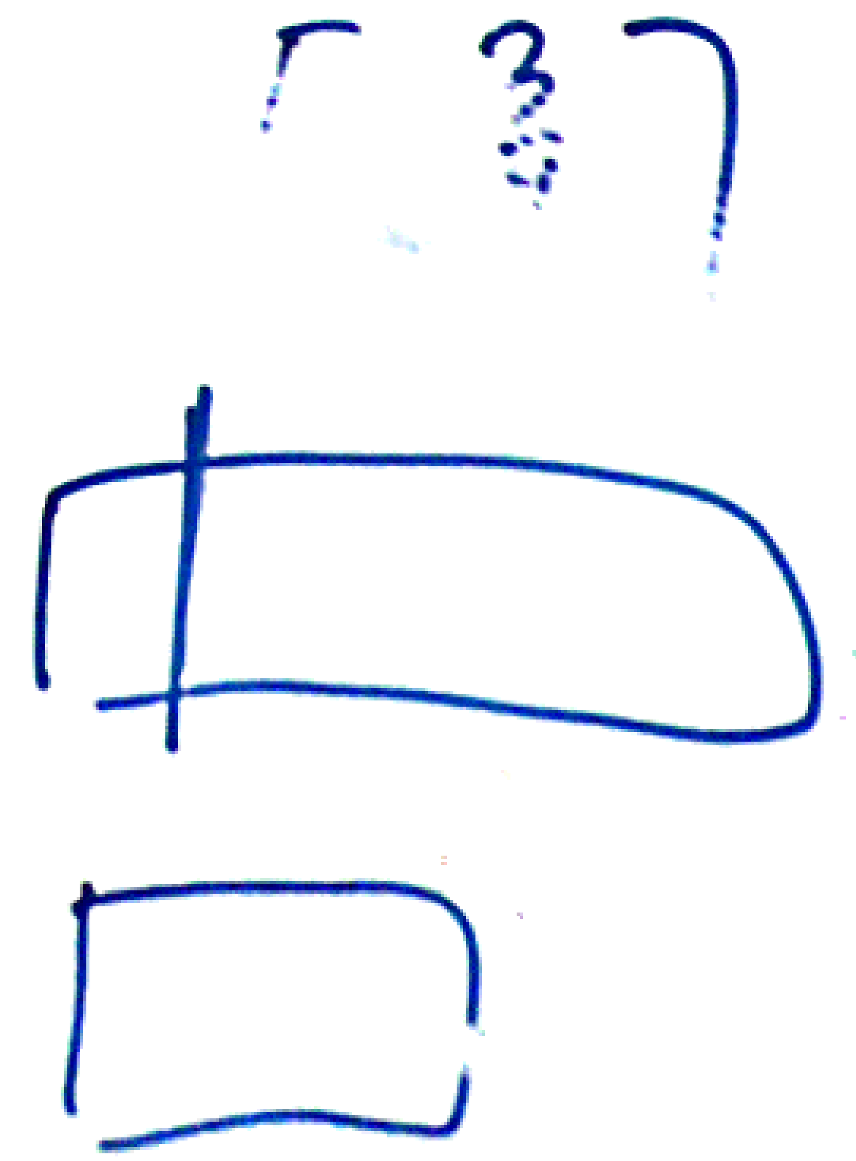
CalcularMediana(L[1, ..., n])





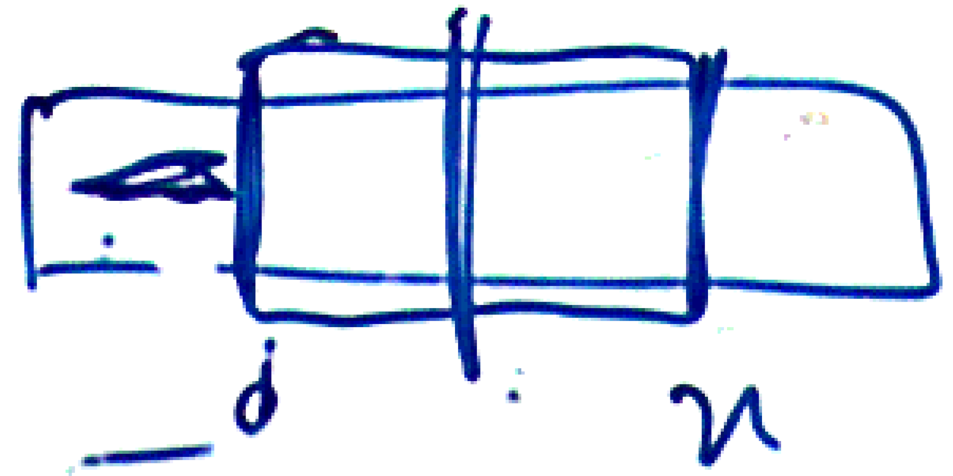
CalcularMediana(L[1,...,n])

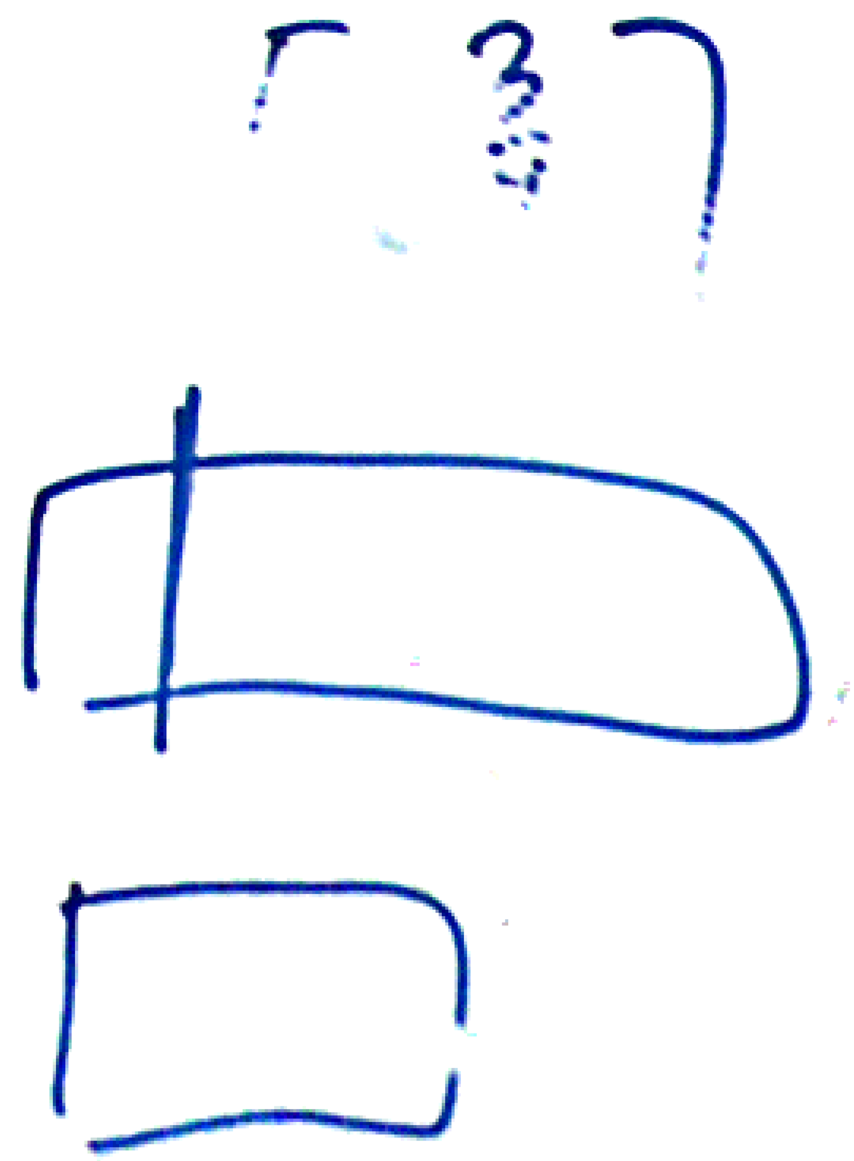




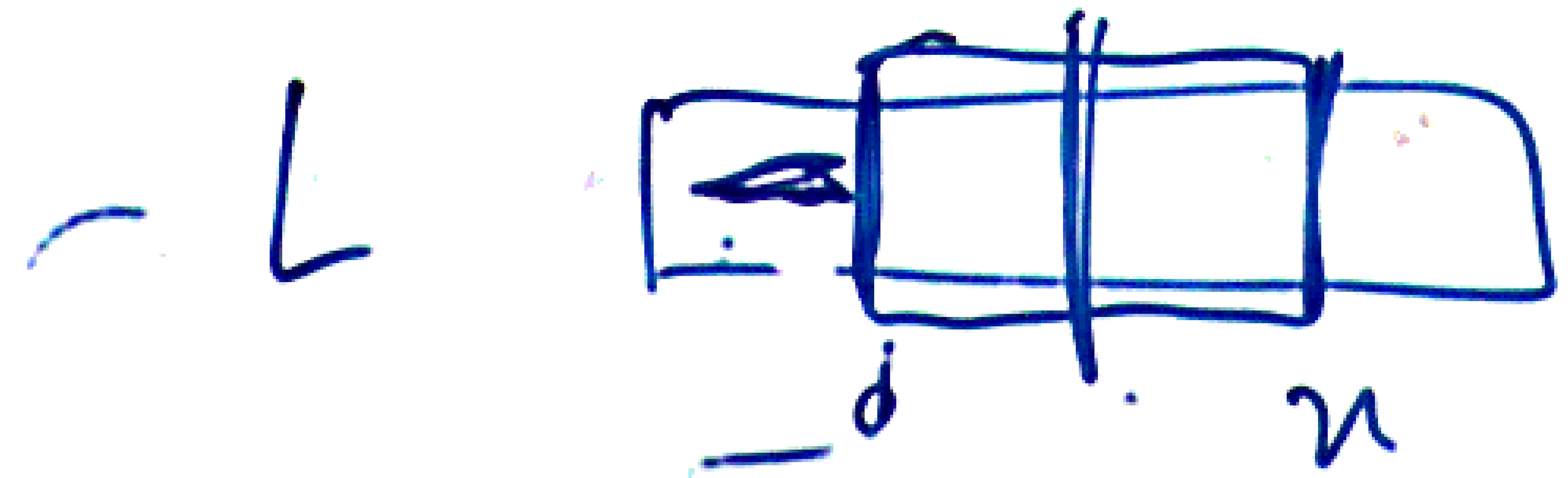
Calcular Mediana (L[1,...,n])

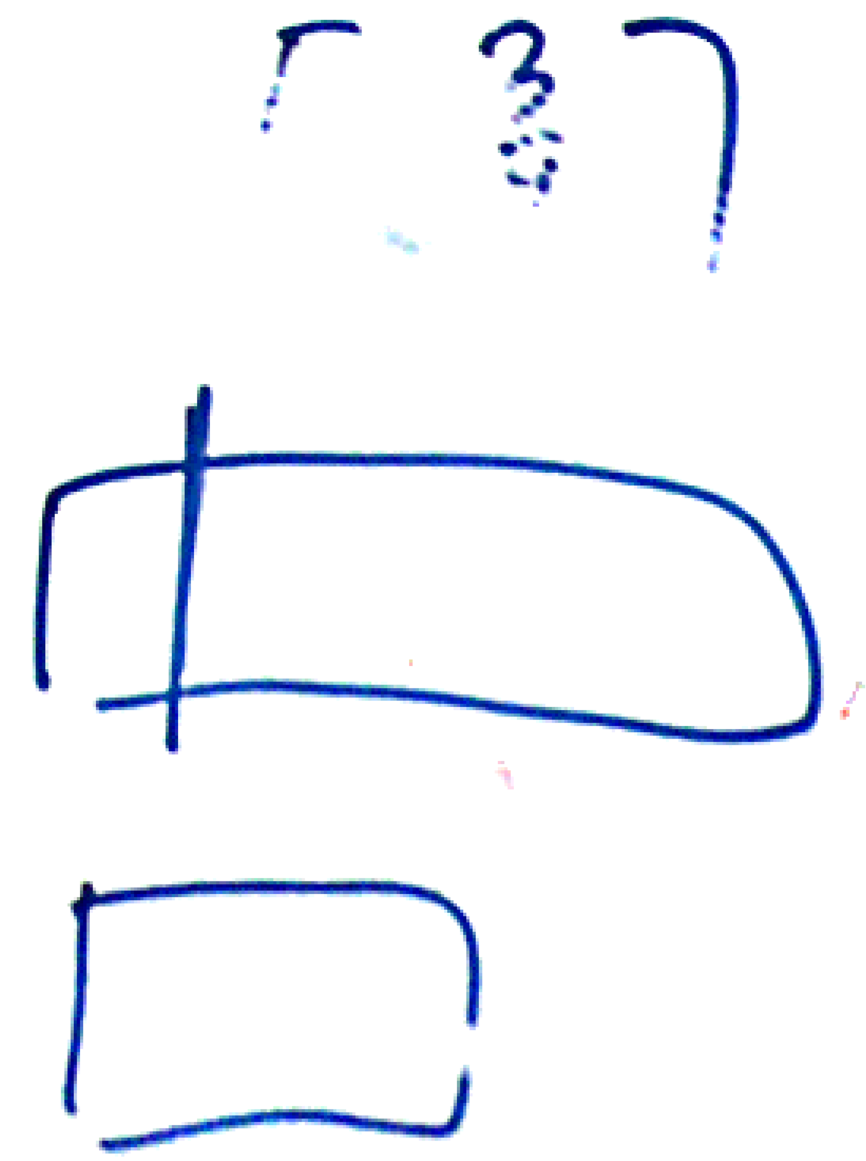
L



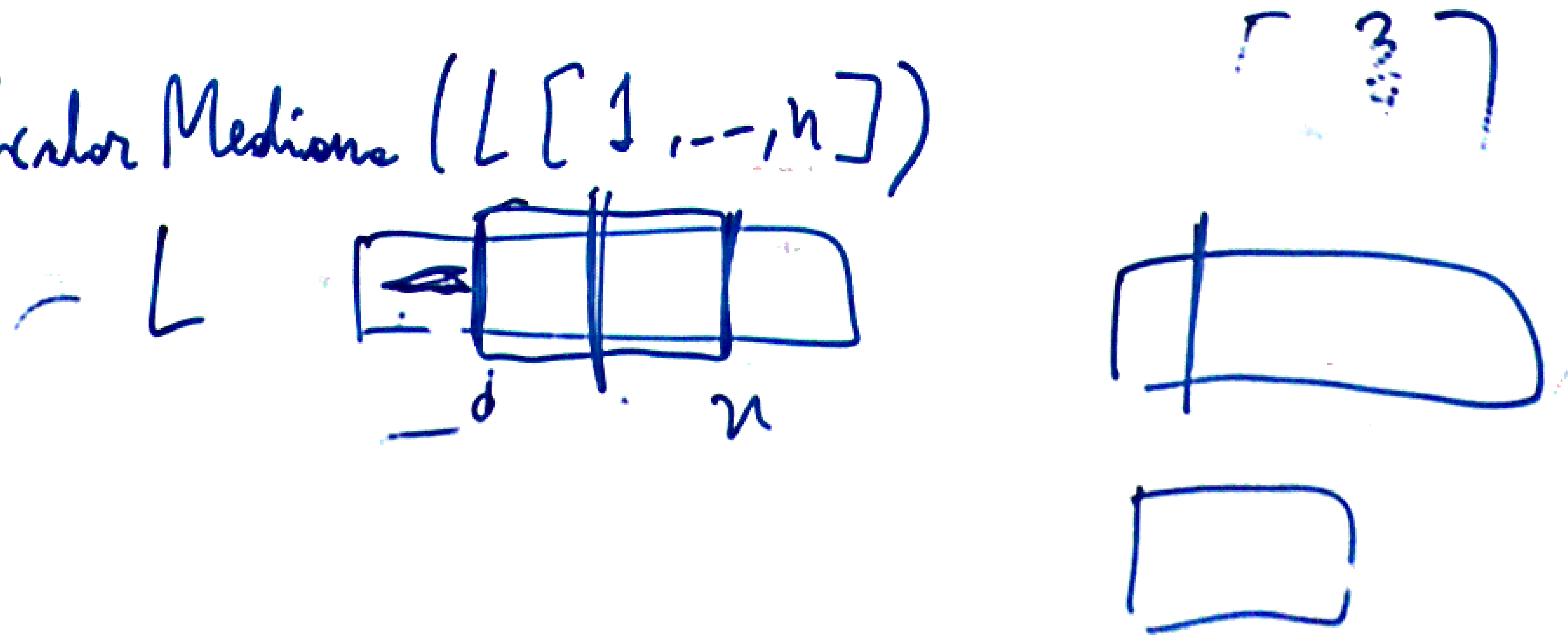


CalcularMediana(L[1, ..., n])

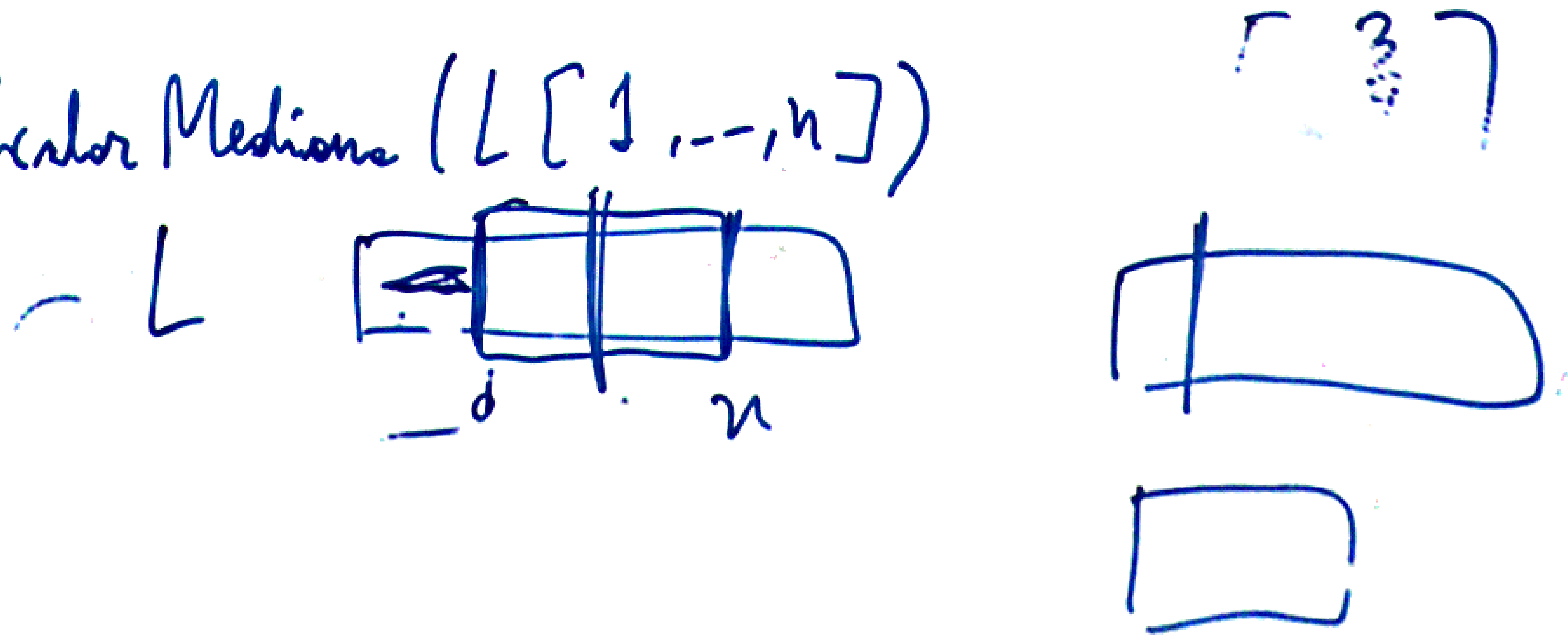




Calcular Mediana $(L[1,\dots,n])$



Calcular Mediana (L [1, ..., n])



Calcular Mediana (L[1, ..., n])

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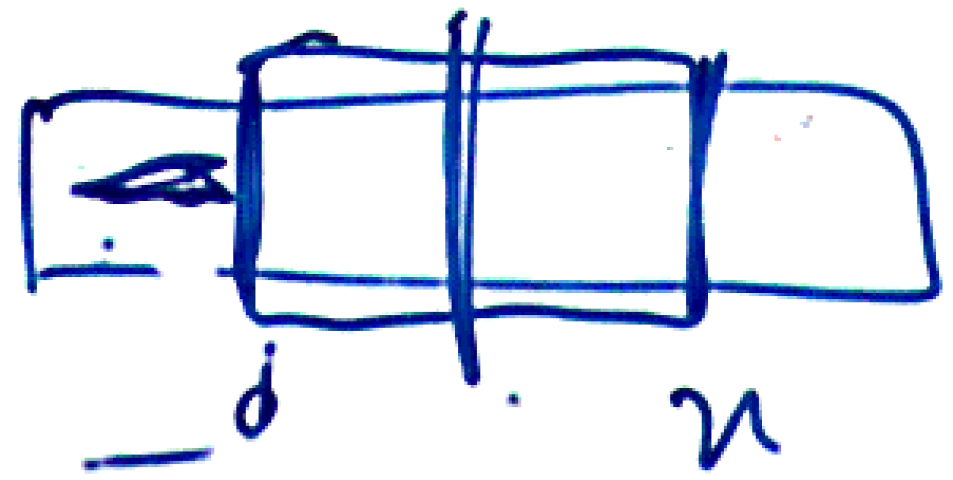
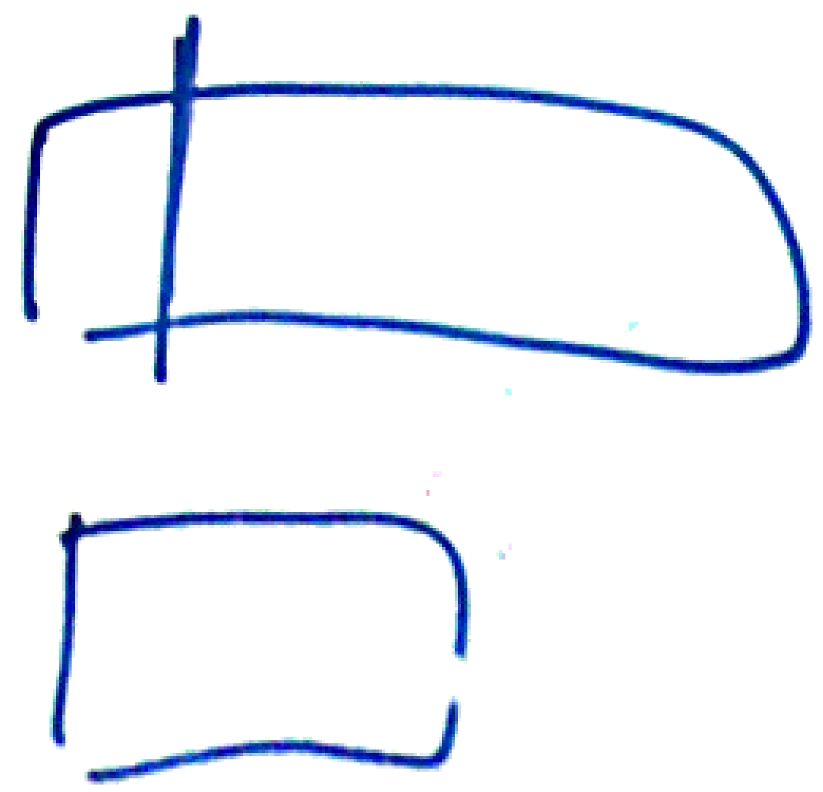
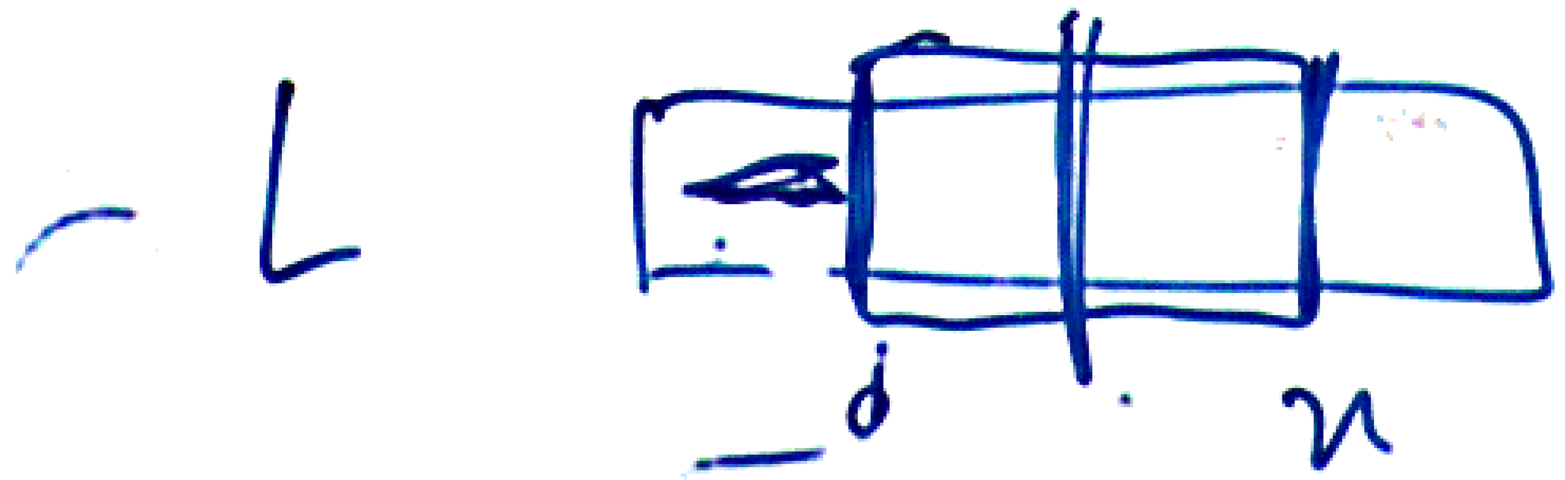
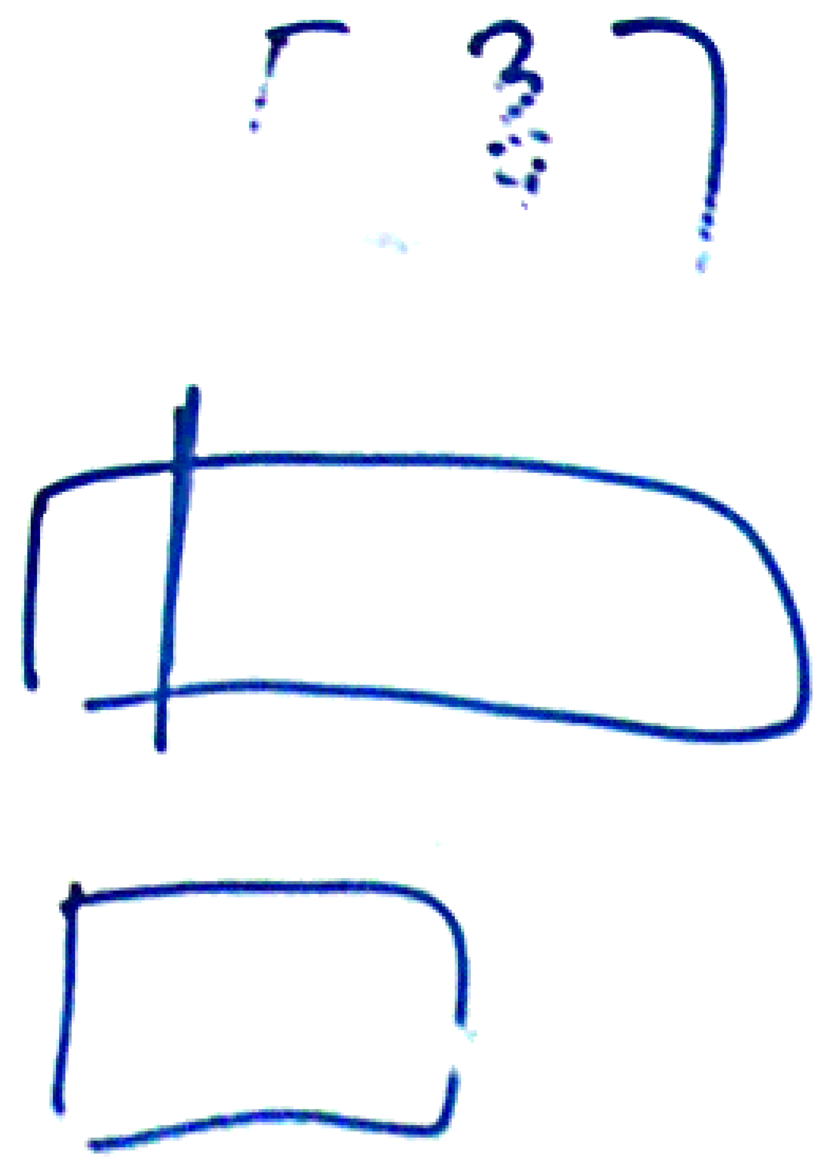




CalcularMediana(L[1,...,n])





CalcularMediana(L[1,...,n])

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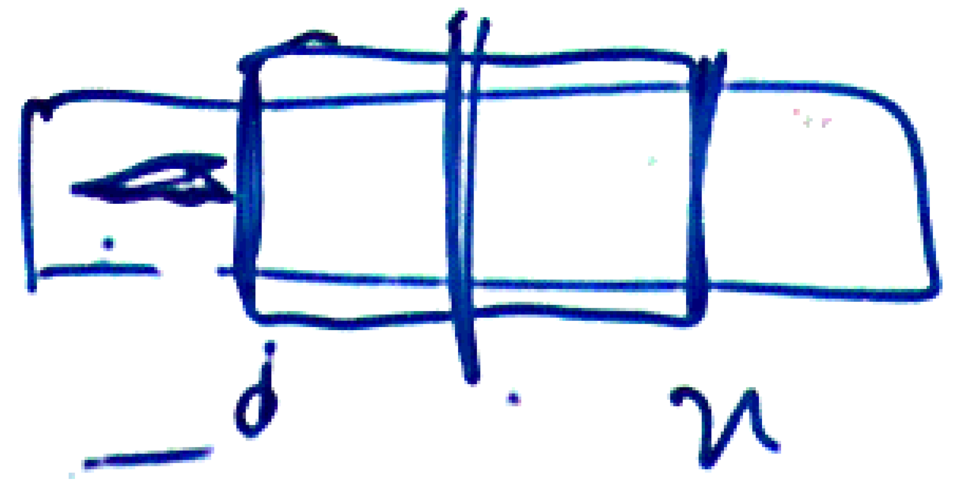
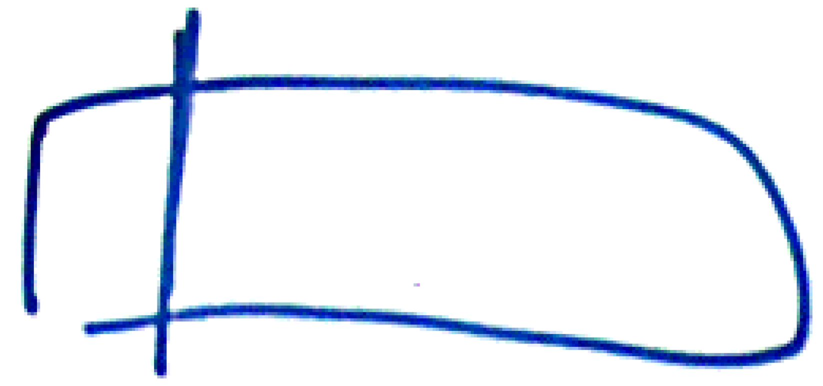


[3]



Calcular Mediana (L[1,...,n])

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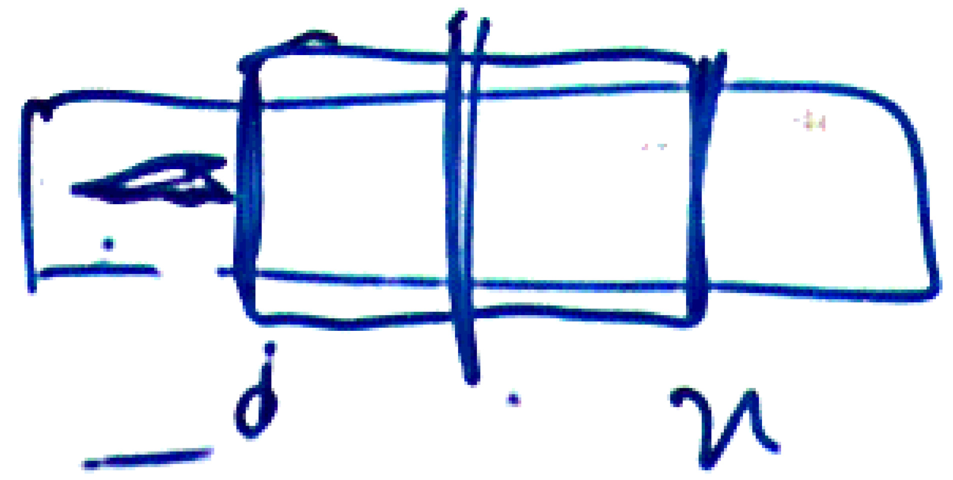

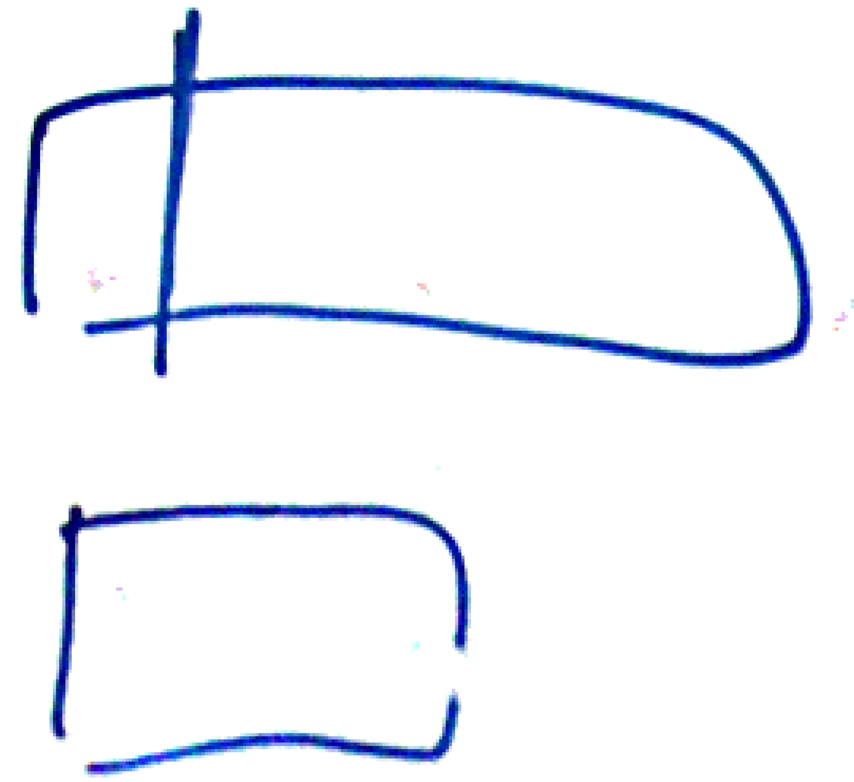

CalcularMediana(L[1,...,n])

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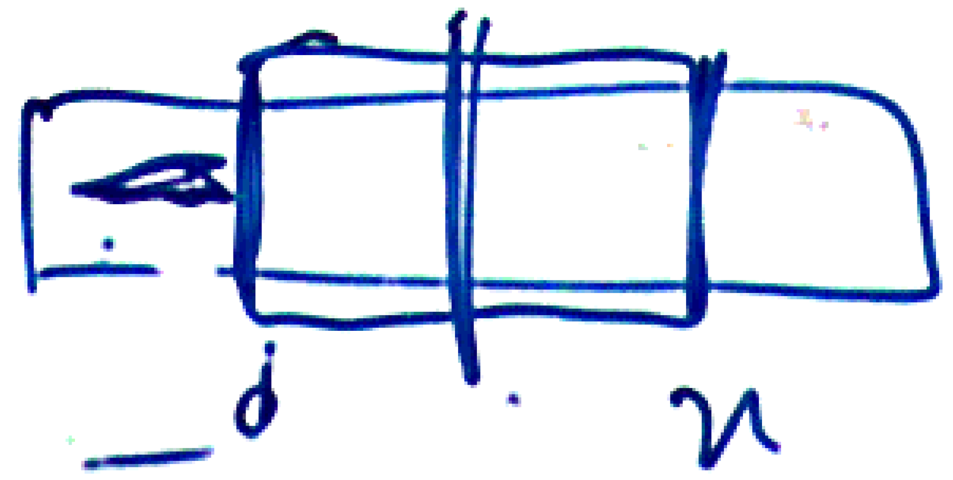
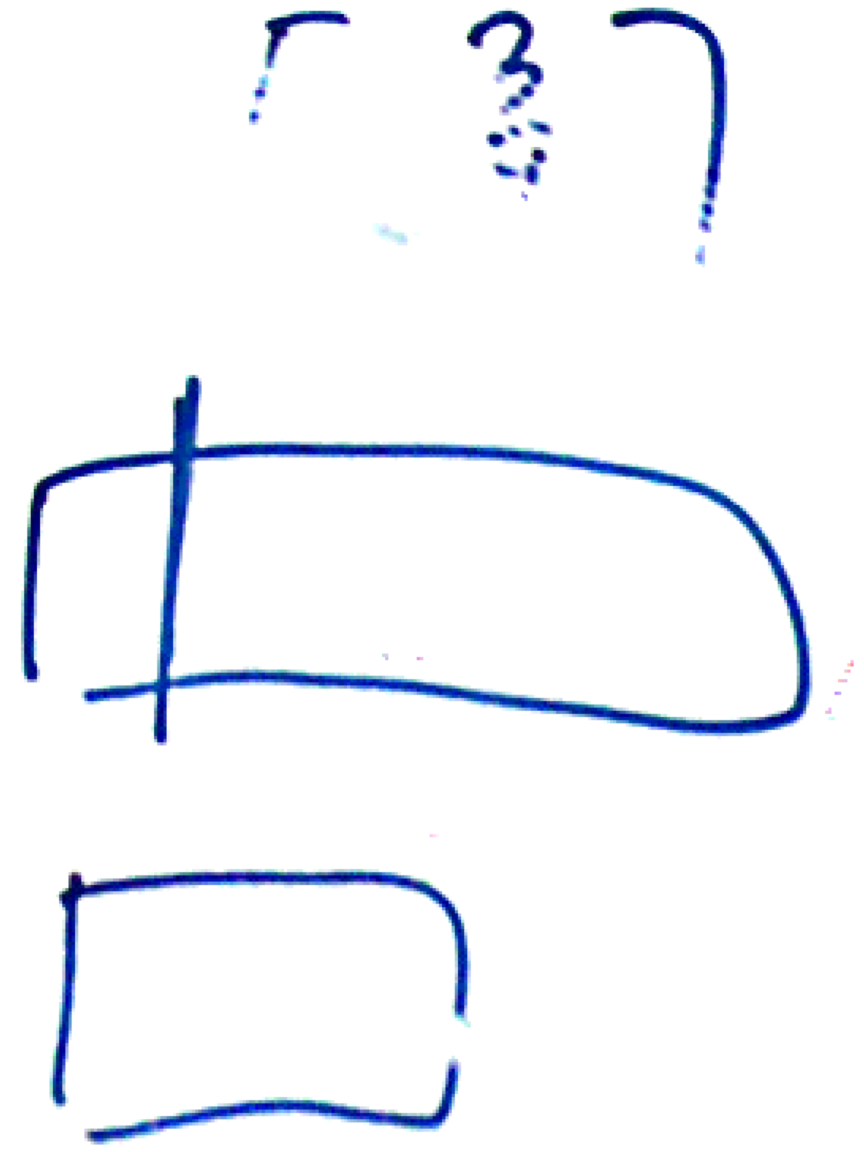
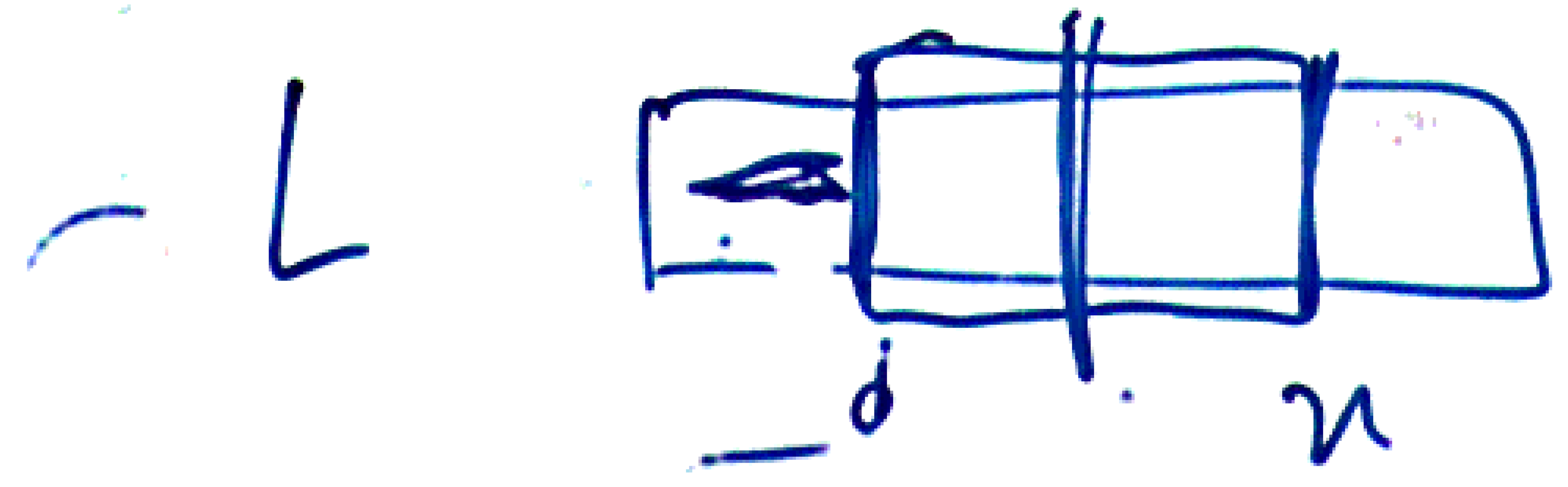
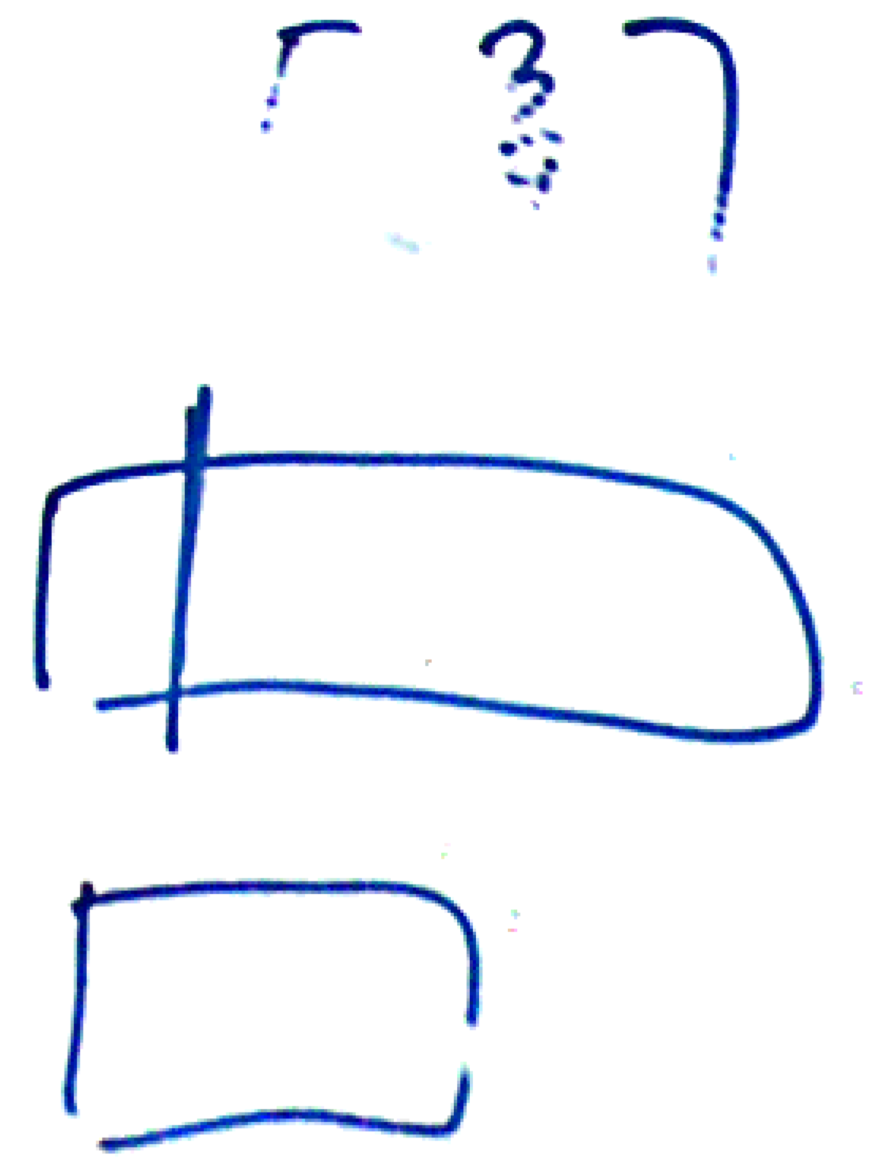


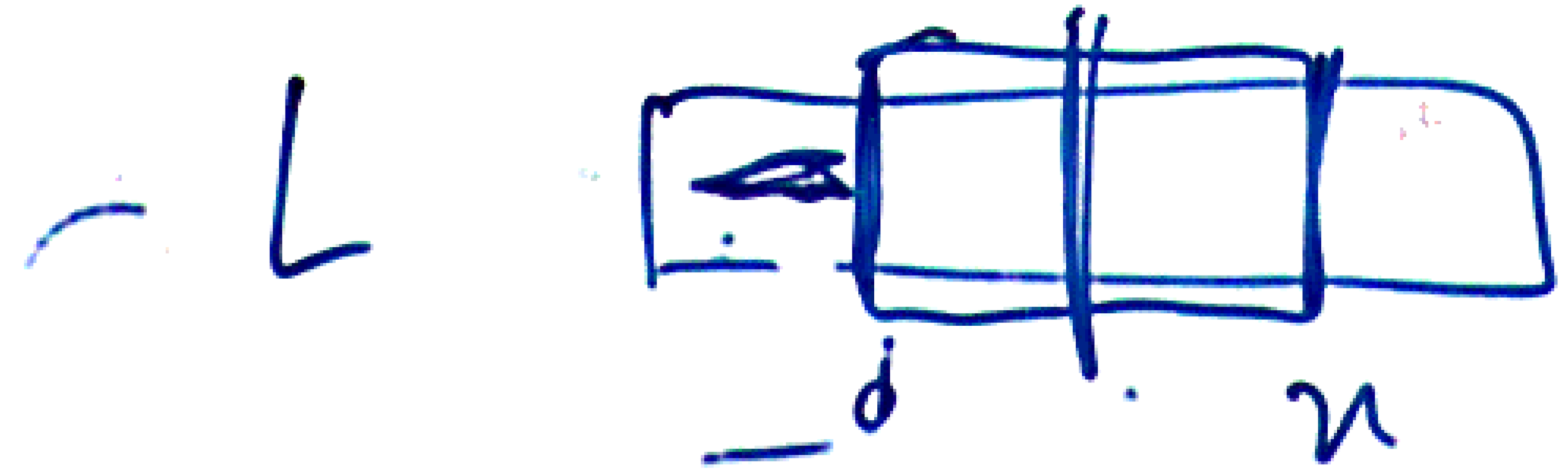


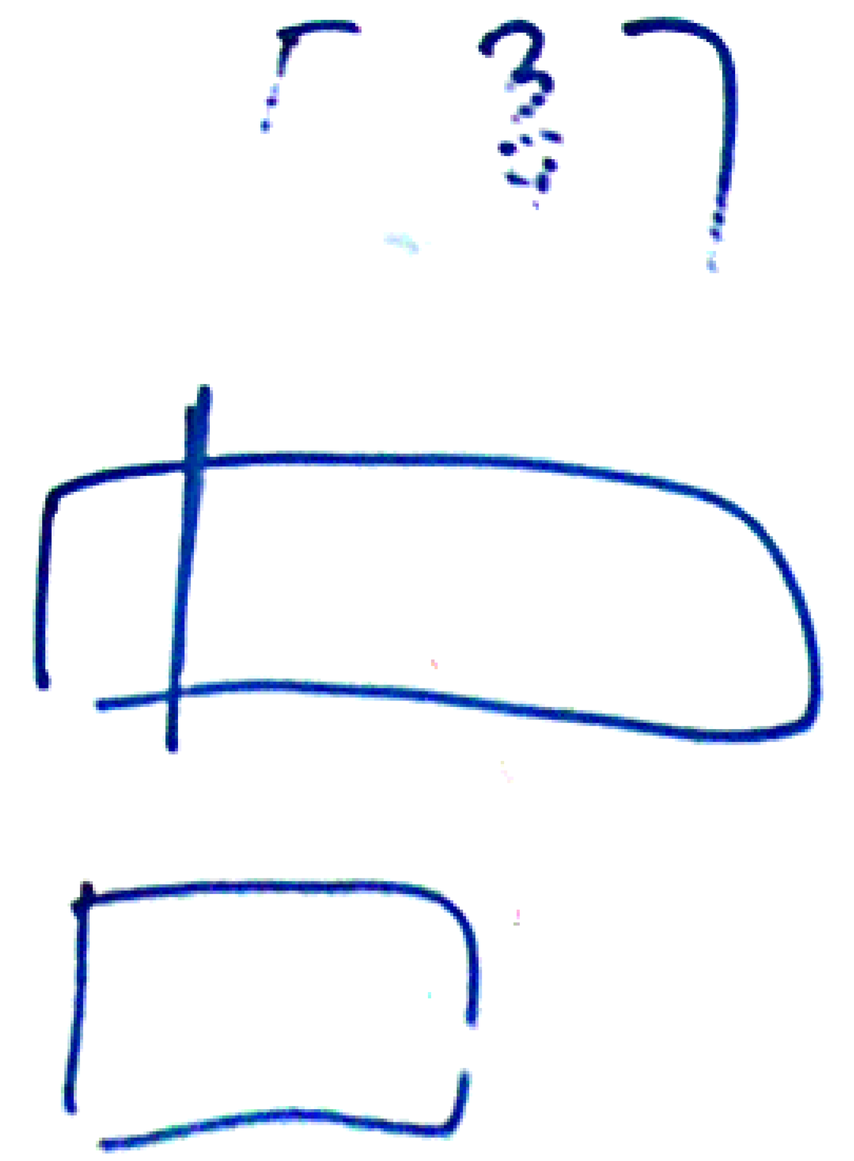
CalcularMediana(L[1,...,n])





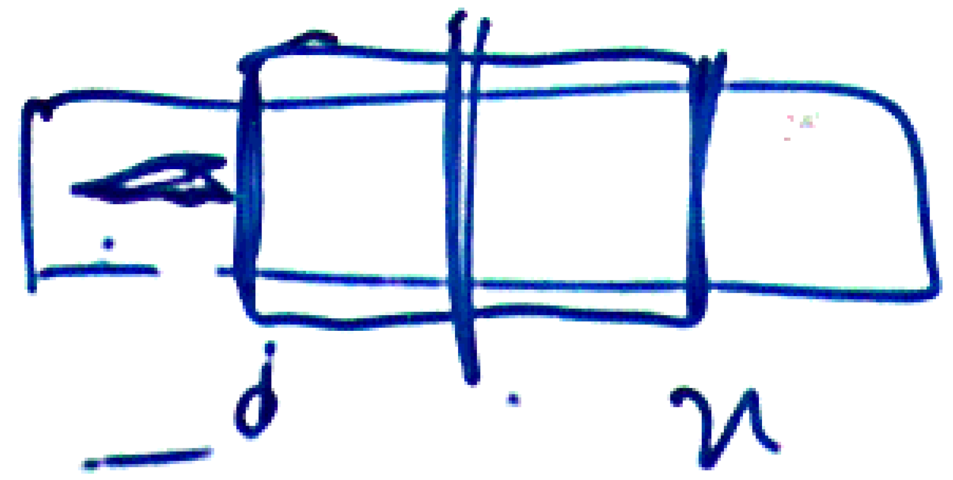
CalcularMediana(L[1,...,n])

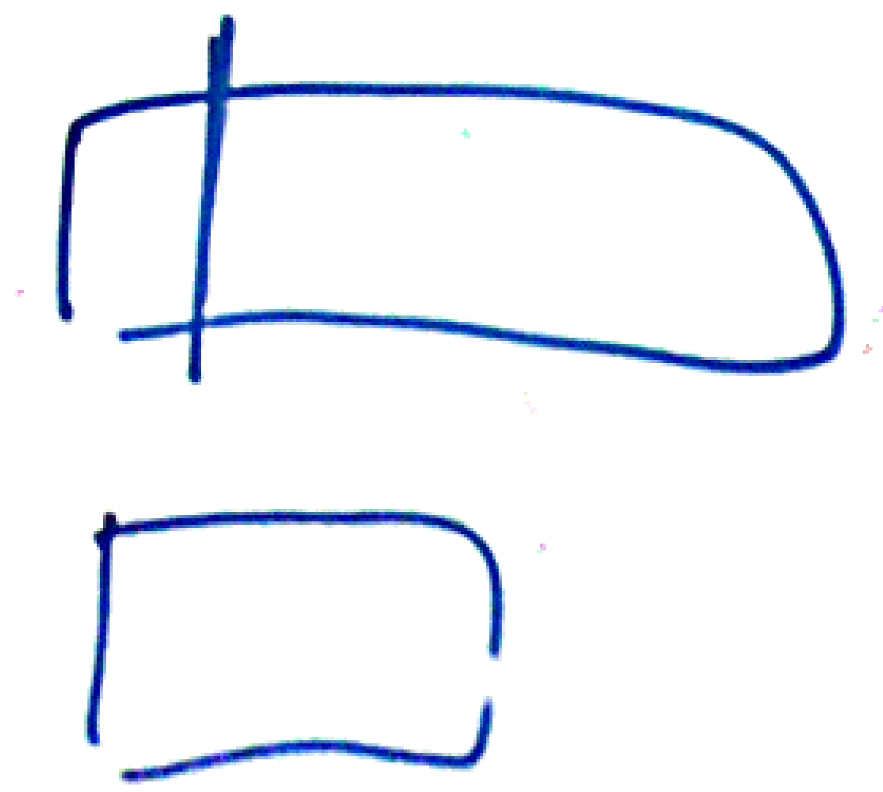




CalcularMediana(L[1,...,n])

— L





Calcular Mediana (L[1,...,n])

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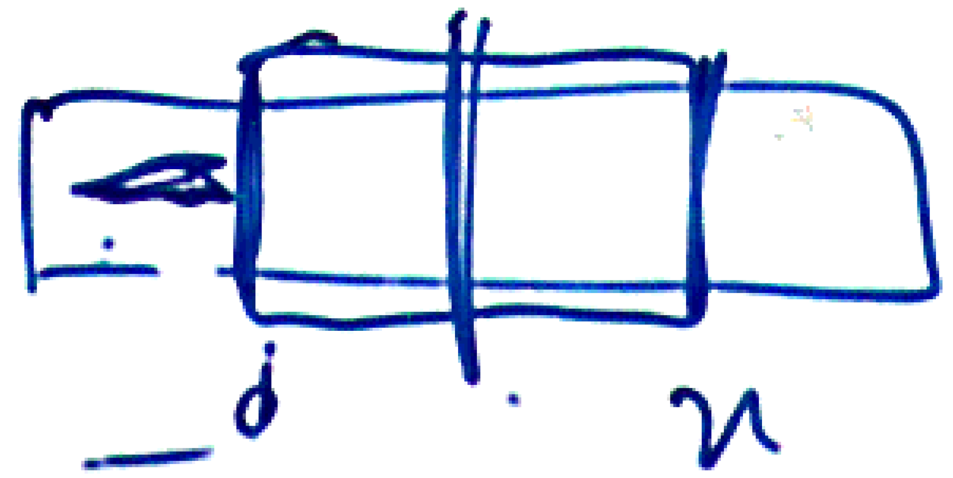

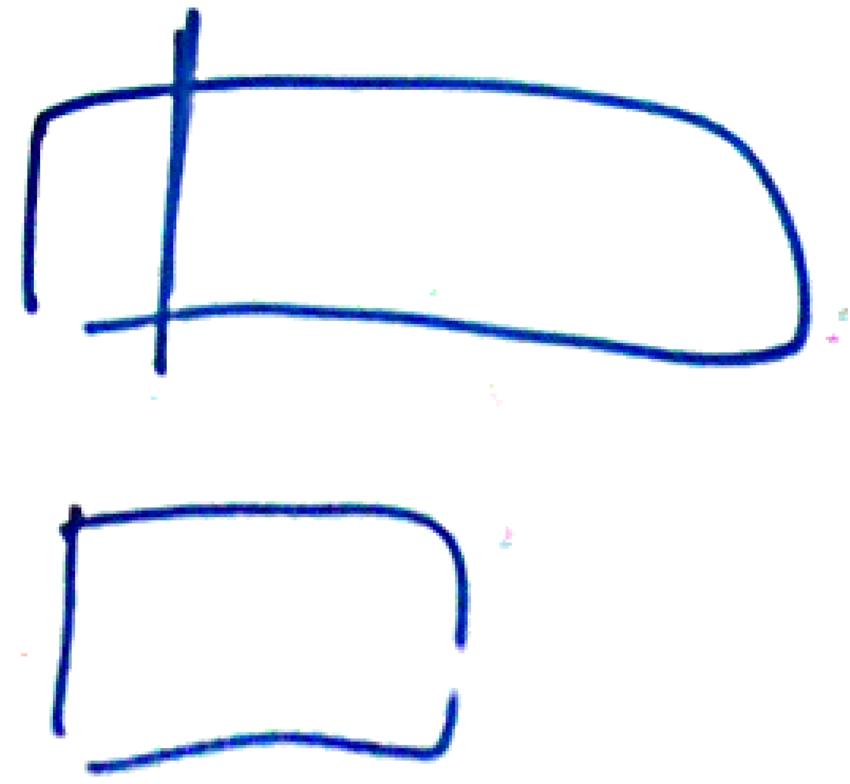

$$Y_1 = \left| \{ i \in \{1, \dots, n\} \mid R[i] \leq m \} \right|$$

$$Y_1 = |\{i \in \{1,\dots,n\} \mid R[i] \leq m\}|$$
$$Y_2 = |\{i \in \{1,\dots,n\} \mid R[i] \geq m\}|$$

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$$Y_1 = \left|\{i \in \{1, \dots, n\} \mid R[i] \leq m\}\right|$$

$$Y_2 = \left|\{i \in \{1, \dots, n\} \mid R[i] \geq m\}\right|$$

$$\Pr(Y_1 < S)$$

$$Y_1 = \left| \{ i \in \{1, \dots, n\} \mid R[i] \leq m \} \right|$$

$$Y_2 = \left| \{ i \in \{1, \dots, n\} \mid R[i] \geq m \} \right|$$

$$Y_1 < \lfloor$$

$$Y_1 = \left|\left\{ i \in \{1, \dots, \lceil n^{\frac{3}{4}} \rceil\} \mid R[i] \leq m \right\}\right|$$

$$Y_1 < \left\lfloor \frac{1}{2} n^{\frac{3}{4}} - n^{\frac{1}{2}} \right\rfloor$$

$$Y_1 = \left| \left\{ i \in \{1, \dots, \lceil n^{\frac{3}{4}} \rceil\} \mid R[i] \leq m \right\} \right|$$

$$Y_1 < \left\lfloor \tfrac{1}{2} n^{\frac{3}{4}} - n^{\frac{1}{2}} \right\rfloor \qquad d = R\left[\left\lfloor \tfrac{1}{2} n^{\frac{3}{4}} - n^{\frac{1}{2}} \right\rfloor \right]$$

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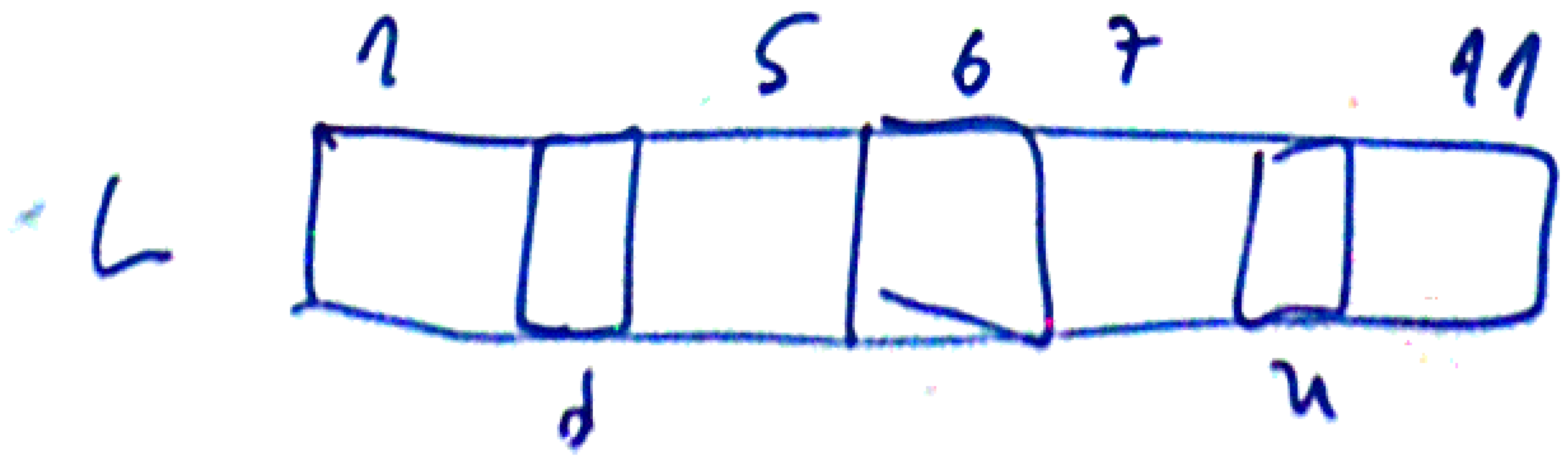

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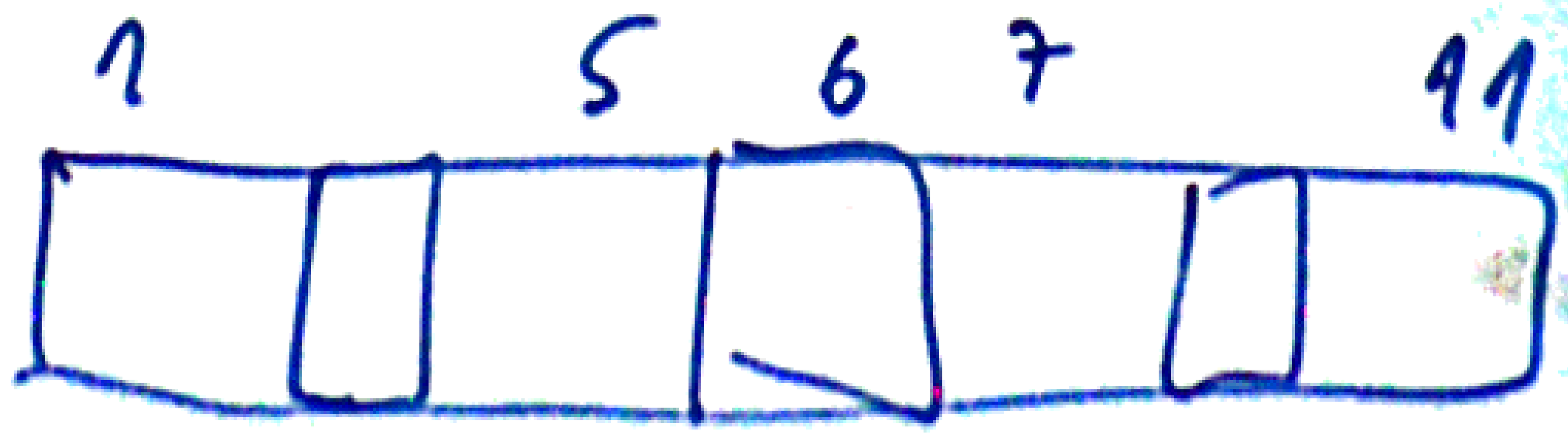
L 

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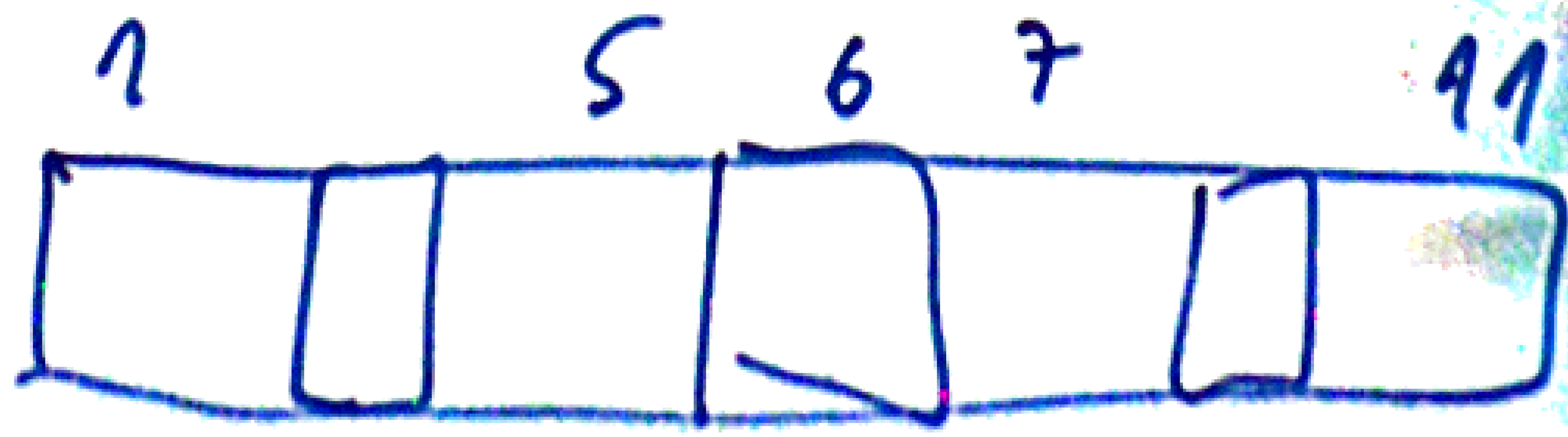
$$\begin{array}{ccc} \shortparallel & & \shortparallel \\ 2 & & 3 \end{array}$$

L 

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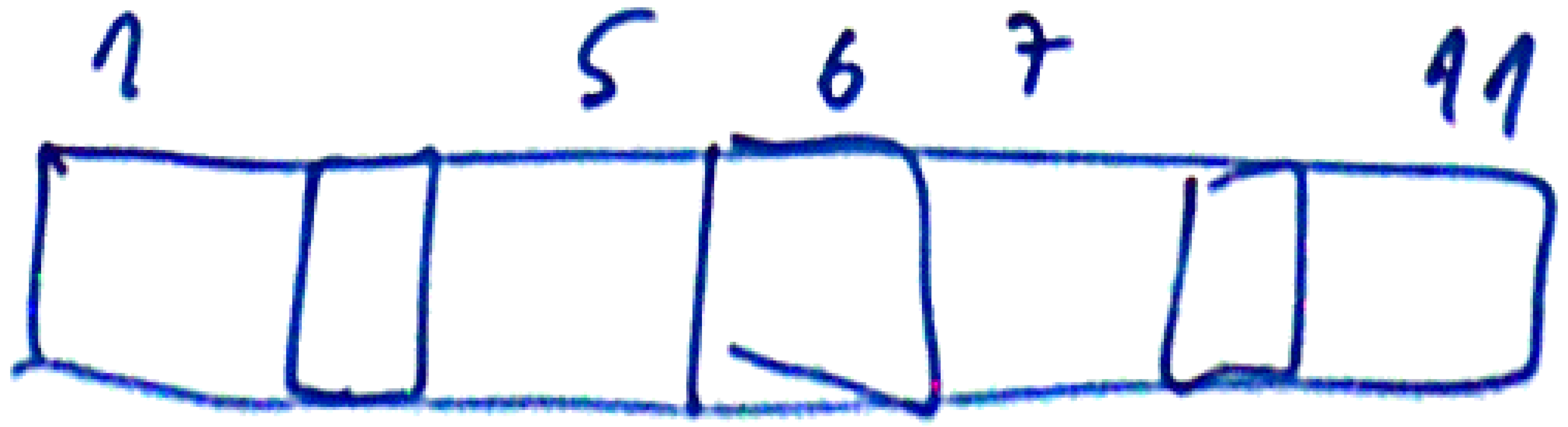
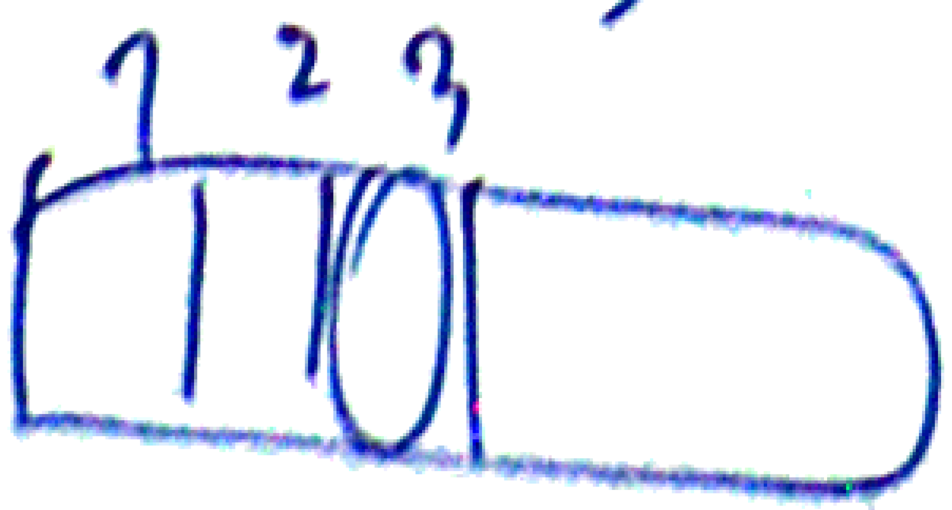
$\parallel$ $\qquad\qquad$ $\parallel$

2 $\qquad\qquad$ 3 $\quad$ L





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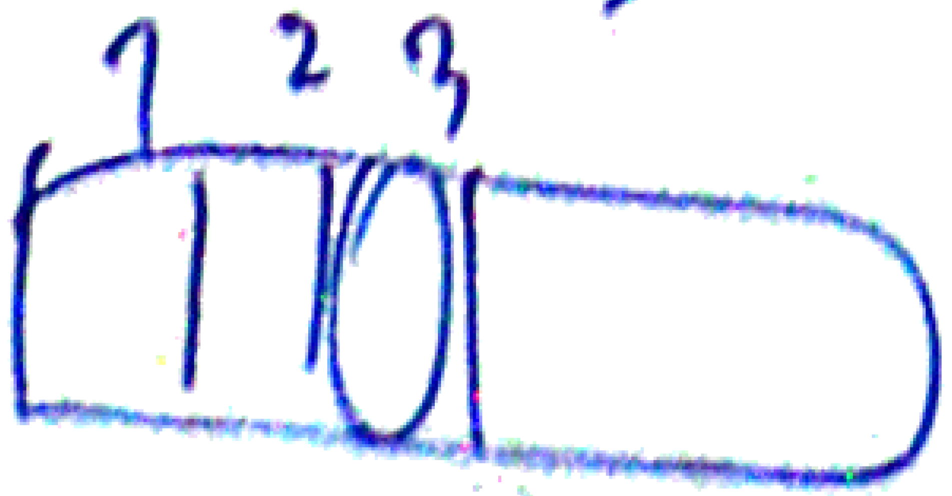
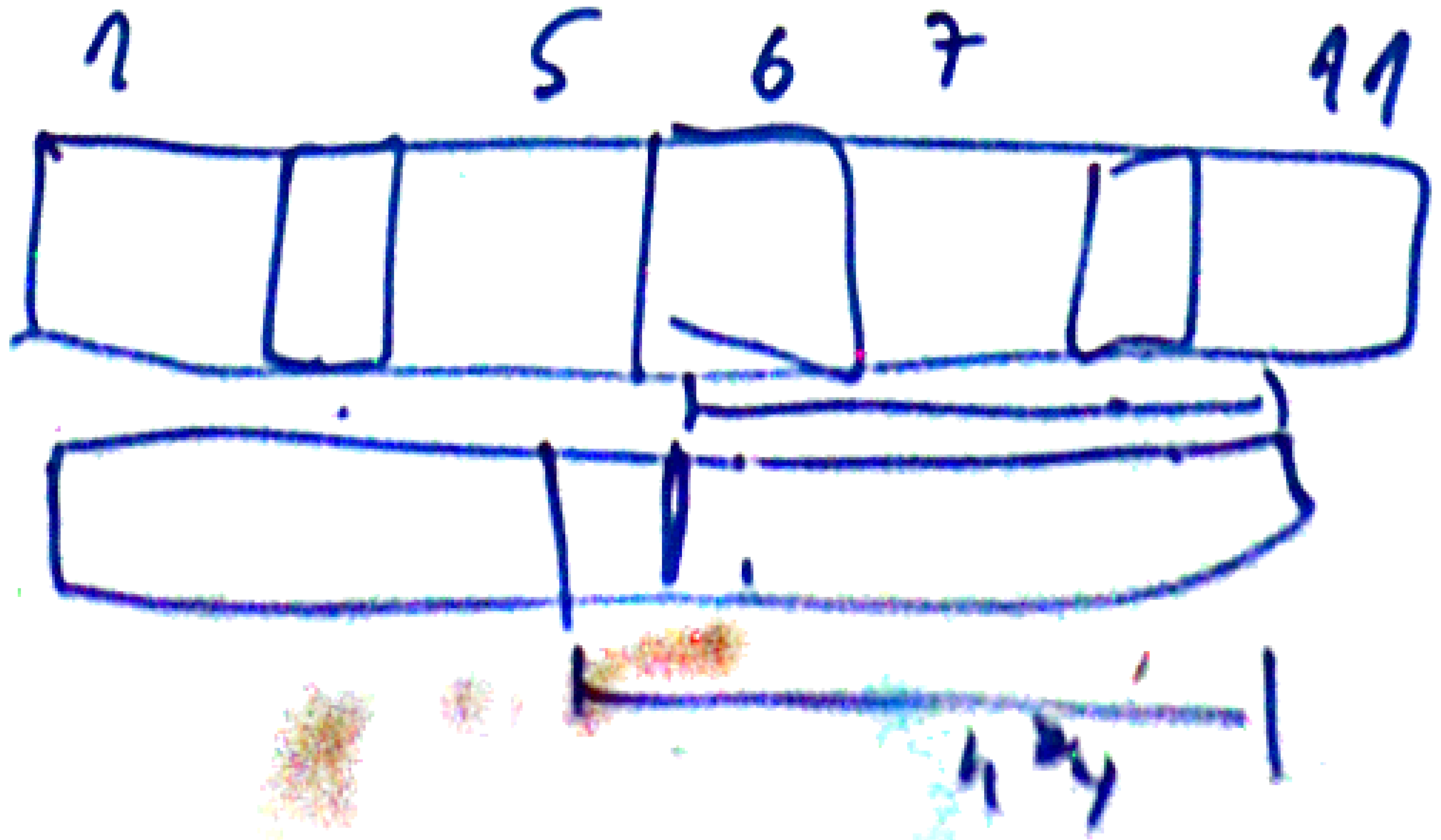
$\shortparallel$ $\qquad\qquad$ $\shortparallel$

2 $\qquad\qquad$ 3 $\quad$ L





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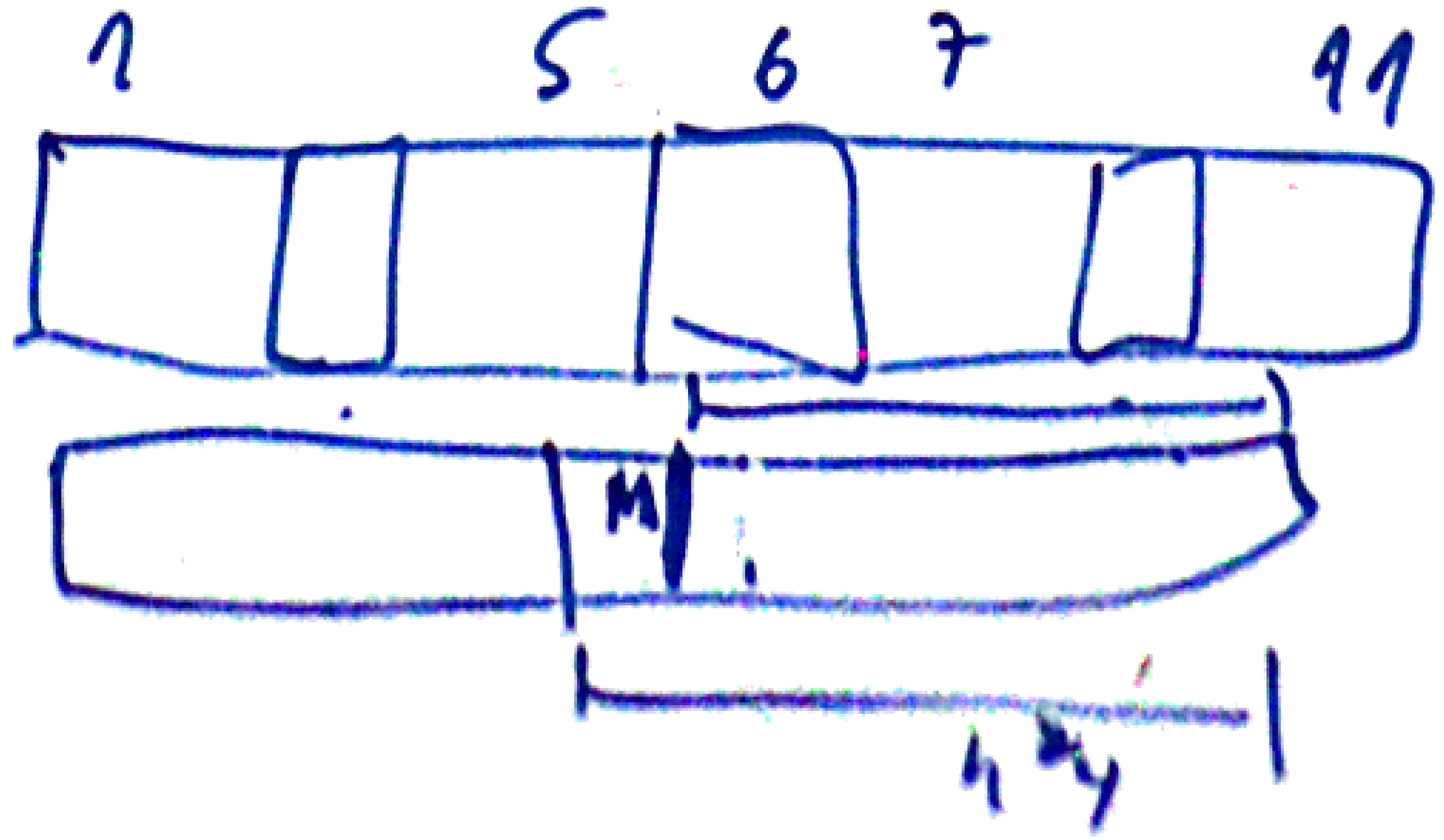
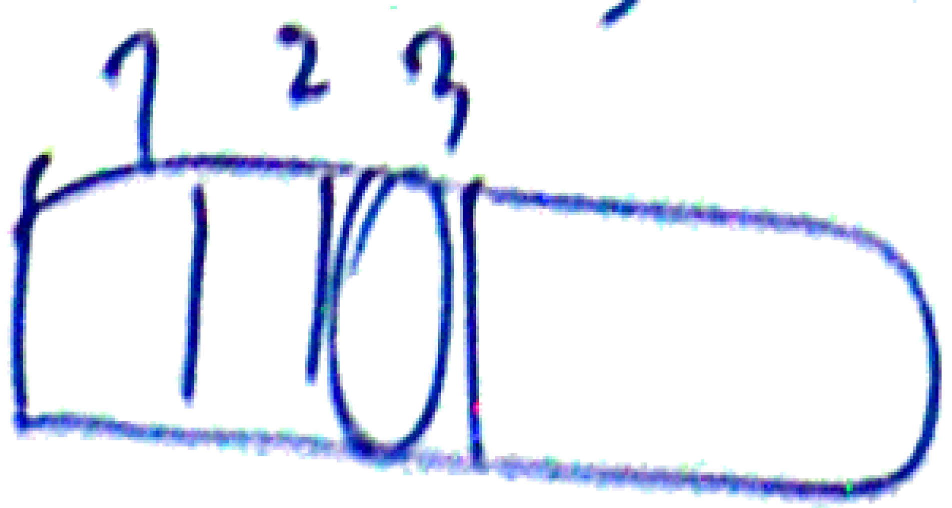
$$\begin{array}{ccc} \parallel & & \parallel \\ 2 & & 3 \end{array} \quad L$$



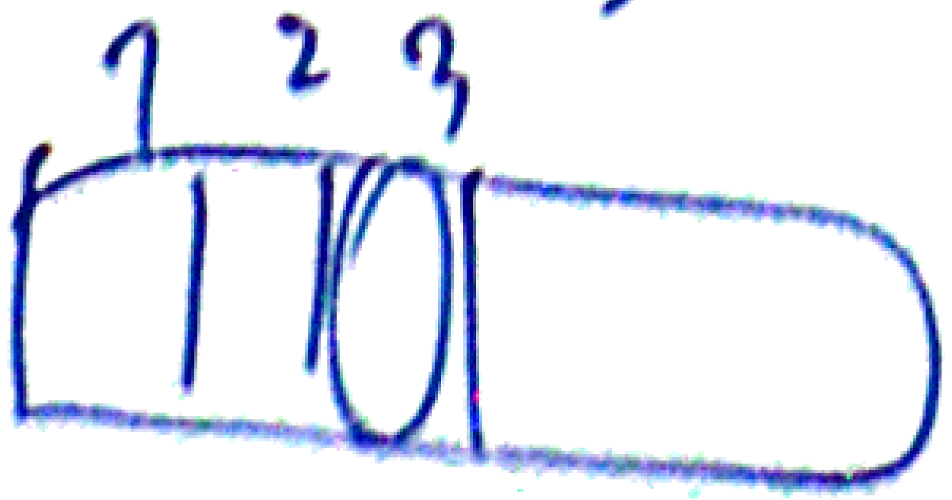


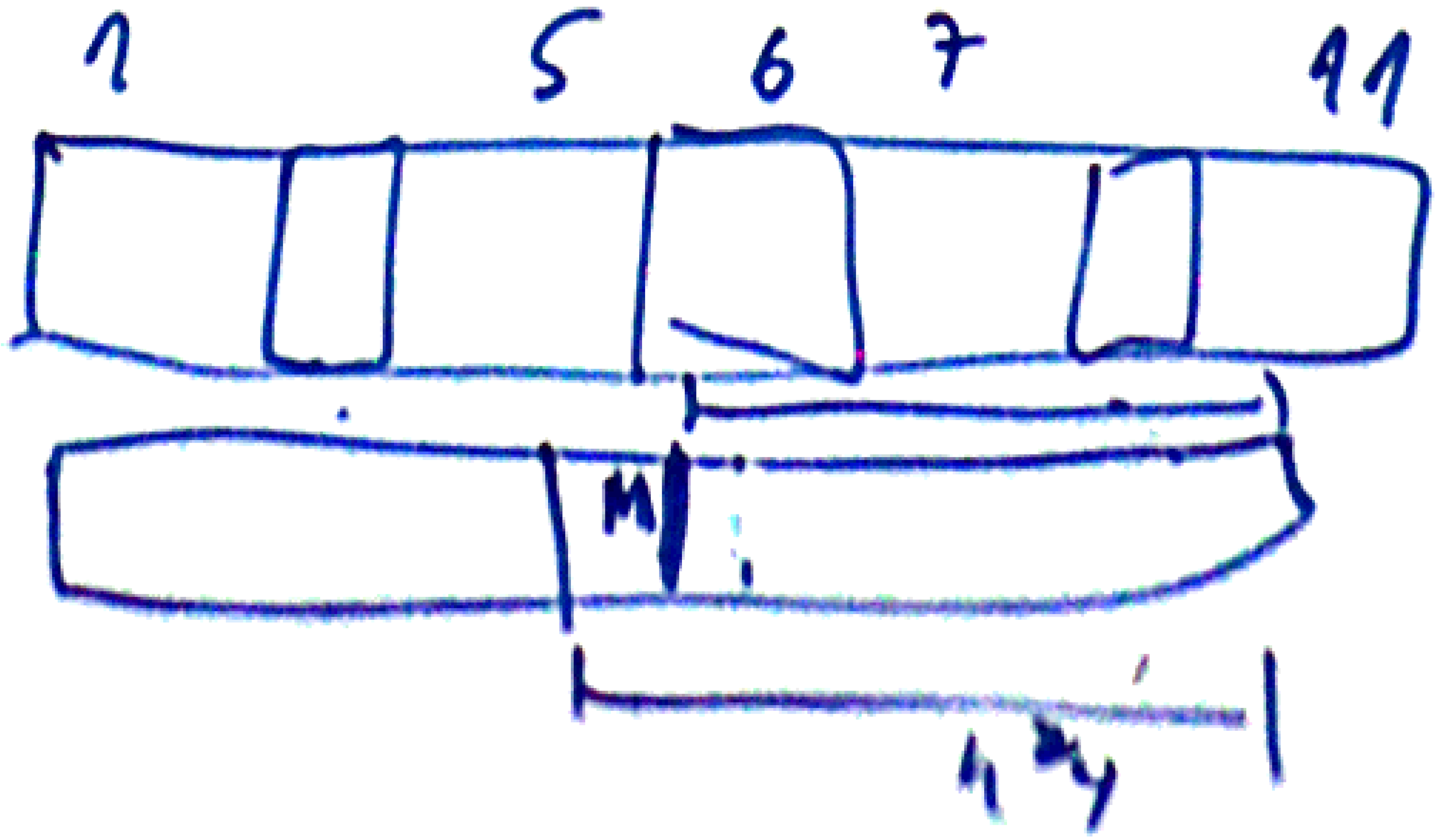
$$\Pr(A \vee B \vee C) \le \Pr(A) + \Pr(B) + \Pr(C)$$

$$Y_1 = \left|\left\{ i \in \{1, \dots, \lceil n^{\frac{3}{4}} \rceil\} \mid R[i] \le m \right\}\right|$$

$Y_1 < \lfloor \frac{1}{2} n^{\frac{3}{4}} - n^{\frac{1}{2}} \rfloor$ $\qquad$ $d = R[\lfloor \frac{1}{2} n^{\frac{3}{4}} - n^{\frac{1}{2}} \rfloor]$

$2 \qquad 3 \quad L$





$$\Pr(A \vee B \vee C) \leq \Pr(A) + \Pr(B) + \Pr(C)$$

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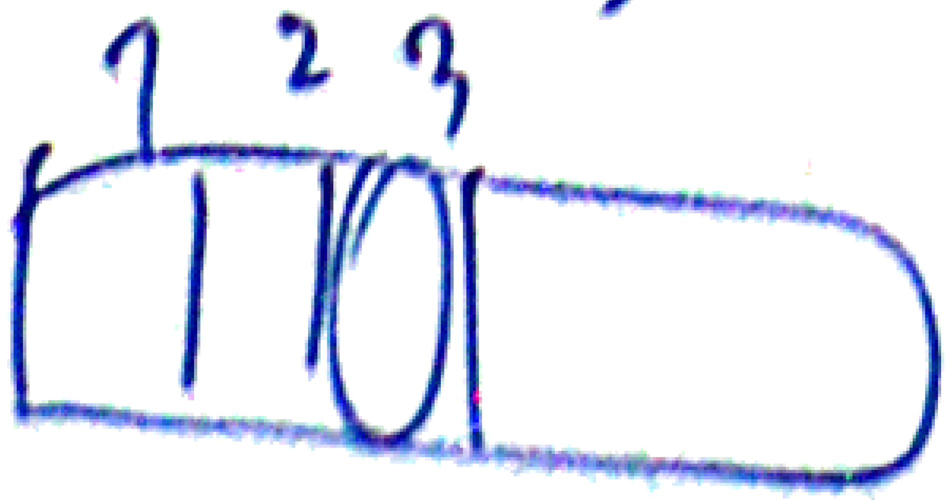
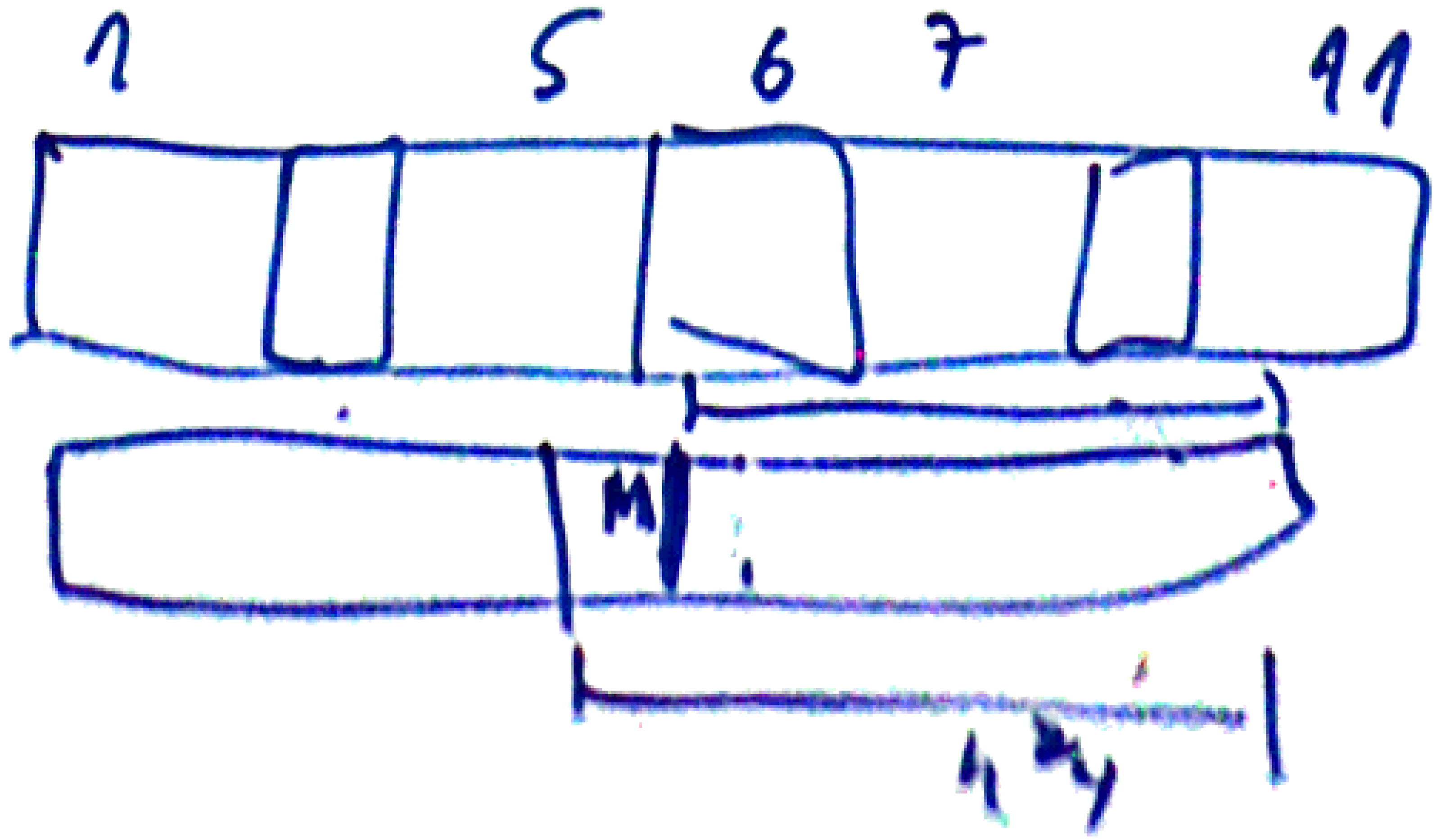
2 3 L





$$E(X) \geq a \cdot \Pr(X \geq a)$$

$$\Pr(A \vee B \vee C) \leq \Pr(A) + \Pr(B) + \Pr(C)$$

$$Y_1 = \left| \left\{ i \in \{1, \ldots, \lceil n^{\frac{3}{4}} \rceil\} \mid R[i] \leq m \right\} \right|$$

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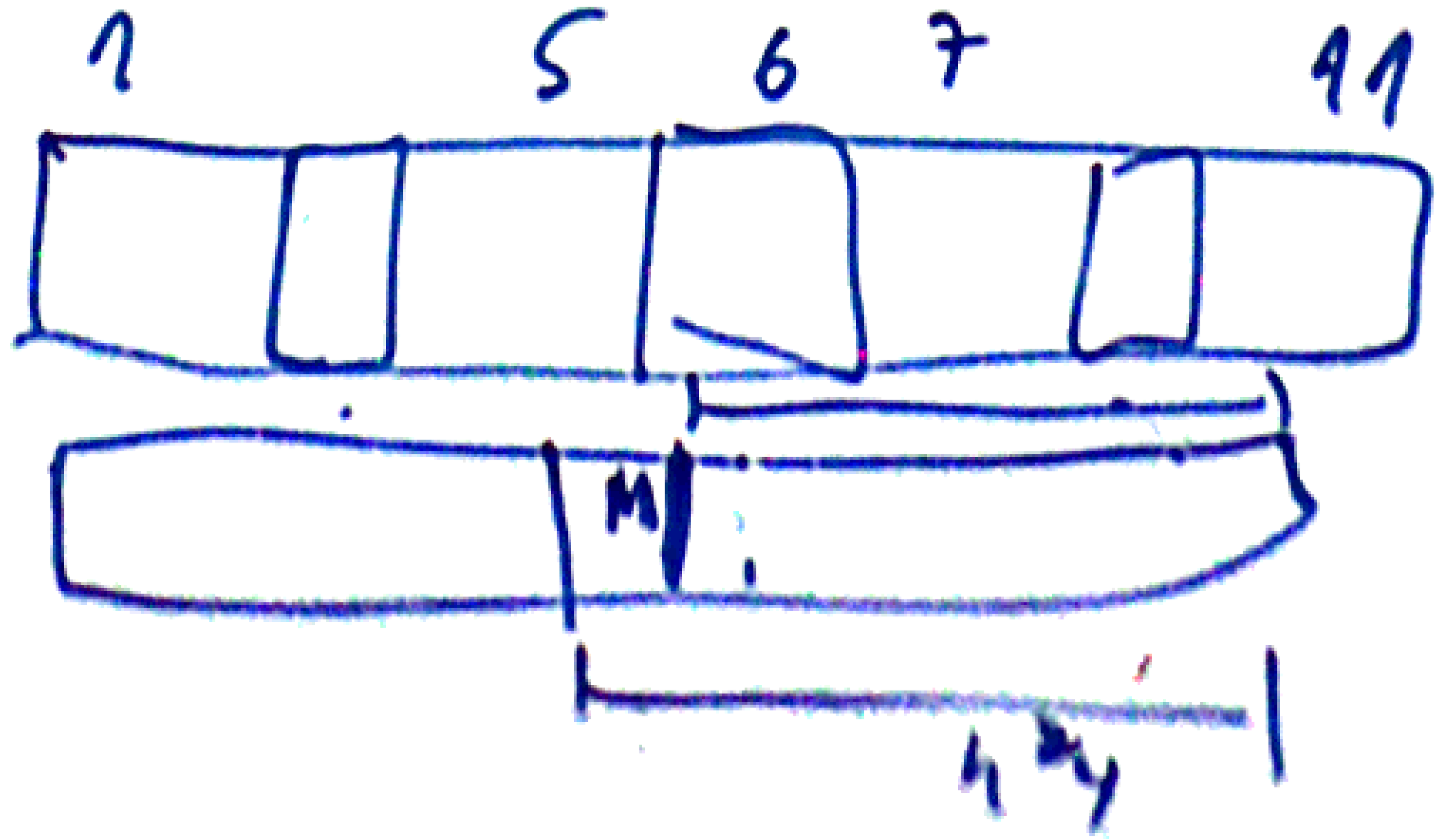
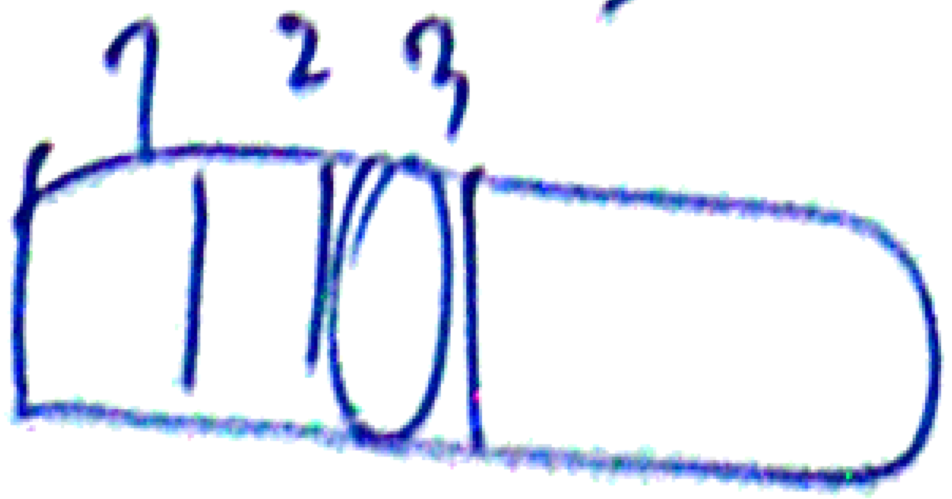
$$\begin{array}{ccc} \shortparallel & & \shortparallel \\ 2 & & 3 \end{array}$$

L



$$E(X) \geq a \cdot \Pr(X \geq a)$$



$\Pr(|X - E[X]| \geq a)$

$= \Pr((X - E(X))^2 \geq a^2)$

$\Pr(A \vee B \vee C) \leq \Pr(A) + \Pr(B) + \Pr(C)$

$E(X) \geq$

$a \cdot \Pr(X \geq a)$

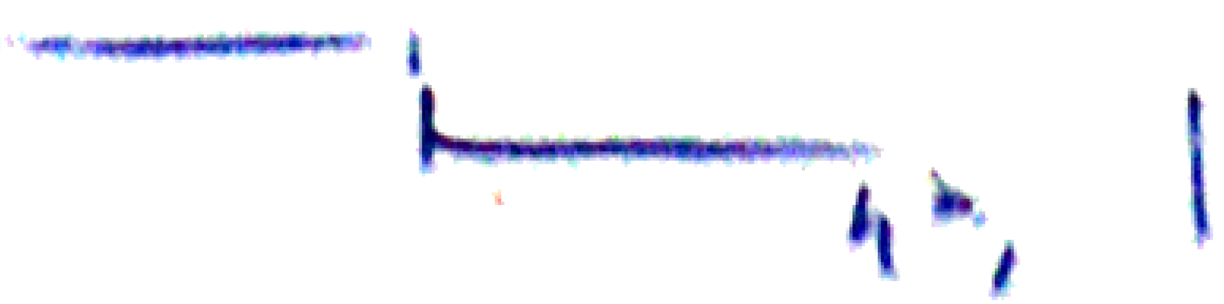
$$\Pr(|X - E[X]| \geq a)$$

$$= \Pr((X - E(X))^2 \geq a^2)$$

$$\leq \frac{E((X - E(X))^2)}{a^2} = \frac{Var(X)}{a^2}$$

$$\Pr(A \vee B \vee C) \leq \Pr(A) + \Pr(B) + \Pr(C)$$

$$E(X) \geq a \cdot \Pr(X \geq a)$$



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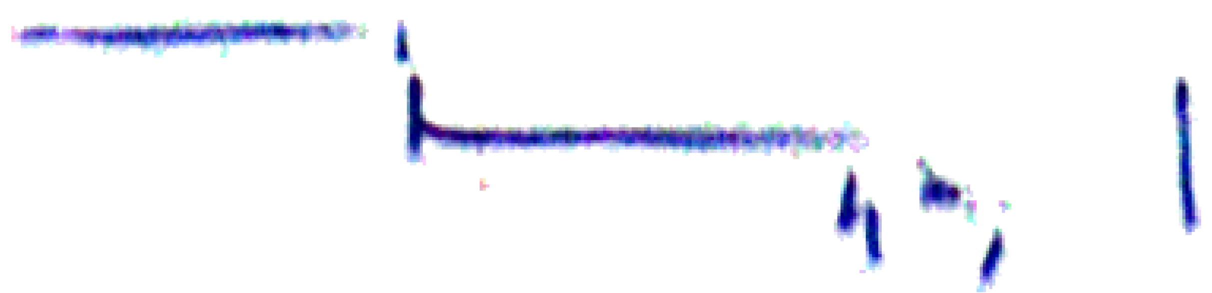
$$E(|X - E[X]|)$$

$$E(X) \geq a \cdot \Pr(X \geq a)$$



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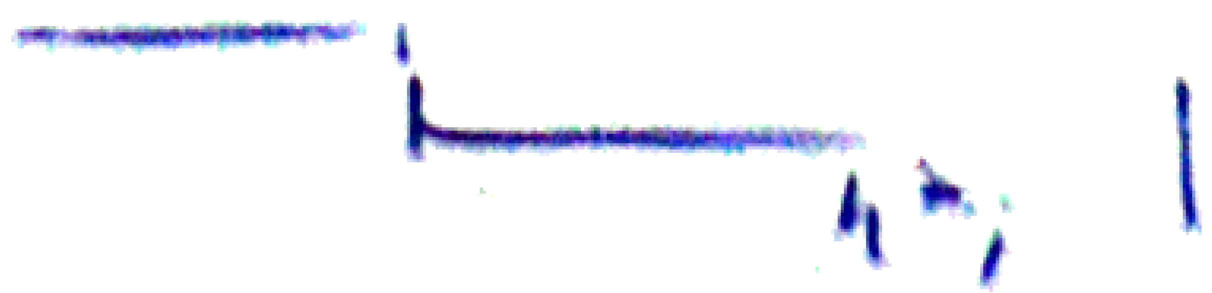

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$$\Pr(A \cup B \cup C) \leq \Pr(A) + \Pr(B) + \Pr(C)$$

$$E(|X - E[X]|)$$

$$E(X) \geq a \cdot \Pr(X \geq a)$$