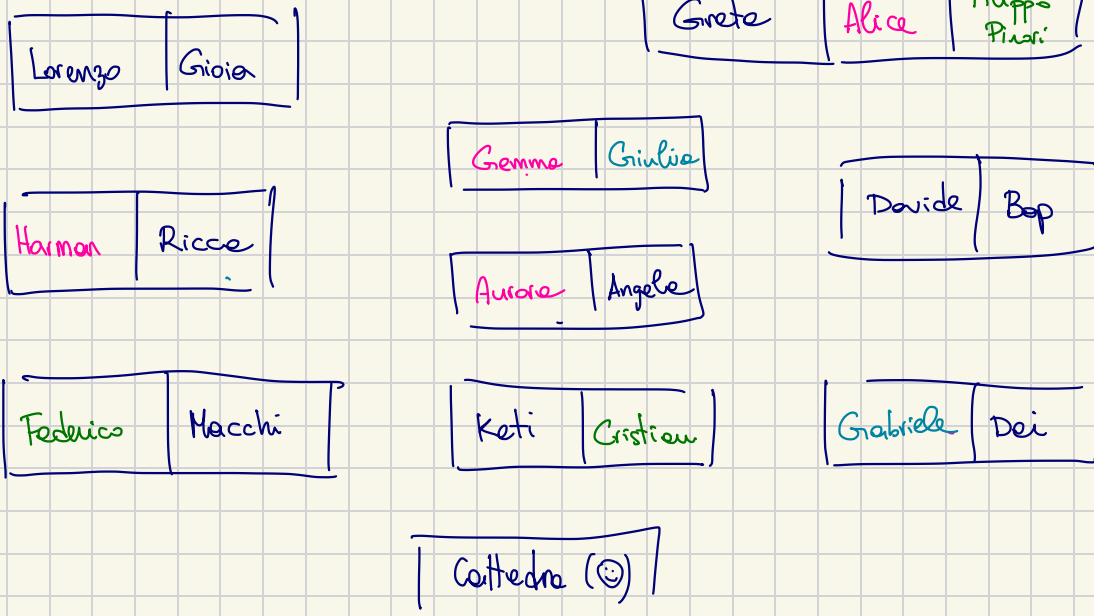
Lorenzo
Gioia
Greta
Alice
Filippo Pisari
Gemma
Giulia
Davide
Bop
Harman
Ricce
Aurora
Angele
Federico
Macchi
Keti
Cristian
Gabriele
Dei
Cattedra (☺)

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$$\frac{x^2+6x+9}{x^2+8x+15} < 1$$

$(x+3)(x+5)$

$$\frac{x^2+6x+9-(x^2+8x+15)}{(x+3)(x+5)} < 0$$

$$\frac{x^2+6x+9-x^2-8x-15}{(x+3)(x+5)} < 0$$

$$\frac{-2x-6}{(x+3)(x+5)} < 0$$

$$\frac{-2(x+3)}{(x+3)(x+5)} < 0 \qquad x \neq -3$$

$$-\frac{2}{x+5} < 0$$

$\cdot(-1)$

$$\frac{2}{x+5} > 0$$

$N: 2 > 0$

$D > 0 \quad x+5 > 0 \rightsquigarrow x > -5$

$\rightsquigarrow$ Sol: $x > -5, \; x \neq -3$

451 $\quad \frac{3x+1}{x^2+4} - 3 < 0$

$$\frac{3x+1-3x^2-12}{x^2+4} < 0$$

$$\frac{-3x^2+3x-11}{x^2+4} < 0$$

$\cdot(-1)$

$$\frac{3x^2-3x+11}{x^2+4} > 0$$

$N > 0 \quad 3x^2-3x+11 > 0 \qquad \Delta = 9-132 = -123 < 0$

$\rightsquigarrow$ Ricetta $\rightsquigarrow \forall x \in \mathbb{R}$

$D > 0 \quad x^2+4 > 0 \rightsquigarrow \forall x \in \mathbb{R}$

$\rightsquigarrow$ Graf segni $\rightsquigarrow$ Sol: $\forall x \in \mathbb{R}$