

# CORSO BASE DI L<sup>A</sup>T<sub>E</sub>X

**Mercoledì**

**08 - 15 - 22 - 29 novembre**

**16:00 - 18:00**

**Aula 2F  
(e online)**



1. Using the previous properties

$$|\mathbf{x} + \mathbf{y}|^2 = (\mathbf{x} \cdot \mathbf{y}) \cdot (\mathbf{x} \cdot \mathbf{y})$$

$$= \sum_{i=1}^k (x_i + y_i)^2$$

$$= \sum_{i=1}^k (x_i^2 + 2x_i y_i + y_i^2)$$

$$= \mathbf{x} \cdot \mathbf{x} + 2\mathbf{x} \cdot \mathbf{y} + \mathbf{y} \cdot \mathbf{y}$$

$$\leq |\mathbf{x}| |\mathbf{x}| + 2|\mathbf{x}| |\mathbf{y}| + |\mathbf{y}| |\mathbf{y}|$$

$$\leq |\mathbf{x}| |\mathbf{x}| + 2|\mathbf{x}| |\mathbf{y}| + |\mathbf{y}| |\mathbf{y}|$$

$$= (|\mathbf{x}| + |\mathbf{y}|)^2$$

and since both sides are non-negative

**Iscrizioni**



```
\documentclass{article}
% Quick alignment test:
% M M M M a
% i i i i a
\usepackage{listings}
\lstset{
  basicstyle = \ttfamily,
  % basewidth = {1.5em, 0.5em},
  % columns = flexible,
  % columns = fullflexible
}
\usepackage{amsmath}
\usepackage{amssymb}
```