whenever one side exists and give rise to the following definitions:

$\sup(f,-f) = |f|$ is called the absolute value of f
$\sup(f,0) = f^+$ is called the positive part of f
$\sup(-f,0) = f^-$ is called the negative part of f .

Note that the negative part of f is positive.

We call two elements f , g of a vector lattice orthogonal or lattice disjoint and write $f \perp g$, if $\inf(|f|,|g|) = 0$. Apart from this, the above definitions allow us to formulate the axiom of compatibility between norm and order requested in a Banach lattice in the following short way:

(LN) $\quad |f| \leq |g|$ implies $\|f\| \leq \|g\|$.

A norm on a vector lattice is called a lattice norm, if it satisfies (LN), and with these notations we can now give the definition of a Banach lattice as follows: A Banach lattice is a Banach space E endowed with an ordering $\leq$ such that $(E,\leq)$ is a vector lattice and the norm on E is a lattice norm. By a normed vector lattice we understand a vector lattice endowed with a lattice norm.

There is a number of elementary, but very important formulas valid in any vector lattice, such as

$f = f^+ - f^-$ $\qquad |f + g| \leq |f| + |g|$
$|f| = f^+ + f^-$ $\qquad f + g = \sup(f,g) + \inf(f,g)$
etc.

Let us note in passing the following consequences:

(i) The lattice operations $(f,g) \to \sup(f,g)$ and $(f,g) \to \inf(f,g)$ and the mappings $f \to f^+$, $f \to f^-$, $f \to |f|$ are uniformly continuous.
(ii) The positive cone is closed.
(iii) Order intervals, i.e. sets of the form
$$[f,g] = \{ h \in E : f \leq h \leq g \}$$
are closed and bounded.

Instead of dwelling upon a detailed discussion of the above equalities and inequalities let us rather formulate the following principle,