



Introduction

The Bourbaki Project is a directed acyclic graph of mathematical concept sheets. A **sheet** is a two-page document of concepts, terms, results and notation. The graph is defined implicitly by the dependencies between concepts, terms, results and notation introduced in the sheets.

The graph is defined in such a way as to order the sheets for an unacquainted reader. Suppose the reader wants to understand the mathematical concept of function, defined in the sheet "Functions". The concept of function uses the concept of a relation, defined in the sheet "Relations". The concept of relation uses the concept of ordered pairs, defined in the sheet "Ordered Pairs". And so on. To understand functions, we must, therefore understand ordered pairs.

to read sheet A , but sheet A uses concepts, terms, notation or results introduced in sheet B . To understand A , the reader should first read B . If, further, B uses concepts from C , the reader must first read C . Then go on to read B , and finally read A . The unacquainted reader must read all sheets introduced. So, the sheets a user needs to read. The idea needs should be transitive: if A needs B and B needs C , then A needs C .

The Bourbaki graph is the minimal graph whose transitive closure gives all needs: in other words, if A needs B and B needs

C , then the Bourbaki graph include edges from A to B and B to C , and not from A to C since this edge is implied by transitivity.

We must not forget that the modern digital computer and the screen are the *envy* of every scholar in every age before ours. Let us not rely so much on our cleverness than on our prudence in doing what they would have in our shoes.

Yes, there are several things which different people call least squares. And with good reason. But let us decide on what we mean by least squares and so know what we are talking about.

These sheets contain nothing but fiction. And yet, to the best of my knowledge, everything is true.