

Part I: The Theory Of Graphs

“It is a capital mistake to theorize before one has data.”

A Scandal in Bohemia, (Sherlock Holmes) Arthur Conan Doyle

The purpose of Part I of this book is to present selected topics from the theory of graphs, the choice being guided by what is likely to be applicable for the engineer, scientist, or worker in operations research. Naturally, when discussing a field which is likely to be new to most of the intended readers, we must introduce the basic concepts of the subject and the notation and terminology which describes them. In doing this we attempt to motivate why the concepts of graph theory came into being and to hint at why they are important in today's technological world.