

Abstract

A number of concepts from theoretical computer science are discussed. These concepts allow to decide which problems can be solved and which problems cannot be solved. The ongoing process of miniaturization, which leads to ever faster computers, will necessarily come to an end when components approach the size of atoms. Two different technologies that possibly can play a role in computing in the future are quantum computers and DNA computers. The principles of these technologies and some of the possible impacts, as for example in cryptography are discussed.