Chapter One

**Introduction**

**What artificial intelligence is about?**

*Artificial intelligence* is the getting on computers to do things that seem to be intelligent. The hope is that more intelligent computers can be more helpful to us--better able to respond to our needs and wants, and more clever about satisfying them. However, "intelligence" is a vague word. Therefore, artificial intelligence is not a well-defined field. One thing it often means advanced software engineering, sophisticated software techniques for hard problems that cannot be solved in any easy way. Another thing it often means is nonnumeric ways of solving problems, since people cannot handle numbers well. Nonnumeric ways are often "common sense" ways, not necessarily the best ones. Therefore, artificial-intelligence programs--like people--are usually not perfect, and even make mistakes.

Artificial intelligence includes:

--Getting computers to communicate with us in human languages like English, either by printing on a computer terminal, understanding things we type on a computer terminal, generating speech, or understanding our speech (*natural language*);

--Getting computers to remember complicated interrelated facts, and draw conclusions from them (*inference*);

--Getting computers to plan sequences of actions to accomplish goals (*planning*);

--Getting computers to offer us advice based on complicated rules for various situations (*expert systems*);

--Getting computers to look through cameras and see what (vision) is there;

--Getting computers to move themselves and objects around in the real world (*robotics*).