1.2.3 Expert Systems:

Expert knowledge is a combination of a theoretical understanding of the problem and a collection of heuristic problem-solving rules that experience has shown to be effective in the domain.

Expert systems are constructed by obtaining this knowledge from an human expert and coding it into a form that computer may apply to similar problems.

Part II:

Introduction to Representation and Search:

The description of AI is: the study of representation and search through which intelligent activity can be enacted on an mechanical device.

The first conference of AI covers these topics.

Automatic computer: If a machine can do a job, then an automatic calculator ca be programmed to simulate the machine.

How can a computer be programmed to use a language: A large part of human thought consists of manipulating words according to rules of reasoning and rules of conjecture?

Neuron nets: How can a set of neurons be arranged to form concepts? Theory of the size of a calculation: If we have an well-defined problem one way to solve it is try all possible answers in order, but this is inefficient, if we like to exclude it, we must have some criterion for efficiency of calculation.

Self-improvement (machine learning): An intelligent machine will carry out activities which may best be described as self-improvement.

Abstractions: We can classify abstractions, to do that and describe machine methods of forming abstractions.

Randomness and creativity: The difference between creative thinking and unimaginative competent thinking lies in the injection of some randomness.

Complexity theory, methodologies for abstraction, language design, and machine learning make up the focus of modern computer science.

Lisp gave AI both a highly expressive language and a medium for interpretation of neuron nets and randomness and creativity.