AUTOMATA

Thus far we have been concerned with two major topics: the discovery of an appropriate model for computation and an examination of the intrinsic properties of computation in general. We found that since Turing machines are equivalent to prograns, they form an appropriate model for computation. But we also discovered that in some sense they possessed far too much computational power. Because of this we ran into great difficulty when we tried to ask questions about them, and about computation in general. Whenever we wished to know something nontrivial, unsolvability sprang forth. And even in the solvable or recursive realm, we found intractability.

Now we shall attempt to overcome this lack of information about computation by restricting the power or our computational model. We hope that this will force some of the decision problems in which we are interested into the zone of solvability.

The sections include: