PROGRAMMING A ROBOT BY GOAL-ORIENTED LANGUAGES

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The problem approached in this paper is that of programming a robot which must operate in an autonomous and intelligent way in a world of simple objects.

The generic task of a robot problem solver is to compose a sequence of elementary actions that transforms the initial state of the world into a final state, in which some specified goal conditions are true. Such a sequence is called plan.

A problem is presented as an example of the working of a robot planning system. There are many blocks of various shapes and colours, and a working desk upon which a robot manipulates the blocks. The program is made to build structures, such as a tower, a table, a house, in response to tasks given by the operator. The program operate on internal 3-dimensional model and produces a plan for converting some present state into some desired goal state . The plan produced consist of a list containing in their proper sequence all of the block movements that are to be made.

The MICROPLANNER language is here used; though it is the most simple of the goal-oriented languages, it is proposed like a tool for writing simply programs and for effectively illustrating how to operate the goal-oriented languages.