# AIND: Research Review

The first known planning system is called STRIPS (Stanford Research Institute Problem Solver), developed by Fikes and Nilsson in 1971[[1]](#footnote-1). It established what is still the base for most of the automated planning languages today – it has had a huge impact. It consisted of start states, goal states, actions with pre- and post-conditions, all present in current planning systems.

A second very influential planning system is called SATPLAN, meant for “Planning as Satisfiability”.[[2]](#footnote-2) It converts a planning problem into a boolean satisifiability problem which is subsequently solved using methods for establishing satisfiability. From Wikipedia[[3]](#footnote-3), “Given a problem instance in planning, with a given initial state, a given set of actions, a goal, and a horizon length, a formula is generated so that the formula is satisfiable if and only if there is a plan with the given horizon length.”

Finally, a third major development was GRAPHPLAN out of Carnegie Melon University, which was a new algorithm for automated planning.[[4]](#footnote-4) GRAPHPLAN uses input in the STRIPS format and gives a sequence of actions to reach the goal state (should one be possible). It uses a planning graph, which at the time was very novel. The graph reduces the amount of search time necessary when compared to the previous standard exploration of the state space.

1. Fikes, RE and Nilsson, NJ (1971). “STRIPS: A new approach to the application of theorem proving to problem solving.” [↑](#footnote-ref-1)
2. HA Kautz and B Selman (1992). “Planning as satisfiability.” In Proceedings of the Tenth European Conference on AI, pages 359-363 [↑](#footnote-ref-2)
3. <https://en.wikipedia.org/wiki/Satplan> [↑](#footnote-ref-3)
4. A. Blum and M. Furst (1997). Fast planning through planning graph analysis. Artificial intelligence. 90:281-300. [↑](#footnote-ref-4)