AI Planning is a branch of artificial intelligence that deals with actions and states to be executed by intelligent agents. The solutions are complex, strategies have to be reevaluated within dynamic environments.
Given initial states of the world, the desired goals, and set of possible actions, the planning problem is to generate a plan that generates a state which contains the desired goals.

STRIPS was one of the first projects in this field. In 1971, Richard Fikes and Nils Nilsson at Stanford Research Institute (SRI) developed a new approach to the application of theorem proving in problem solving. STRIPS was created to control the famous robot Shakey at SRI. It now primarily refers to the planning domain language that evolved out of the robot project. In STRIPS, a set of operators transform an initial world model into some other world model that contains the goal state. The task of the problem solver is to find a sequence of operations which transform the given initial problem into one that satisfies the goals.

In 1997, Avrium Blum and Merrick Furst at CMU developed a new and efficient approach to planning in STRIPS-like domains. It involved constructing and analyzing a brand new object called a Planning Graph. Planning graphs not only encode domain information, but also the goals and initial conditions of the problem. They can be constructed in polynomial time and have polynomial size. As compared to state space search which is exponential. The search speed with plan graphs is order of magnitude improvement.

A* algorithm is the most popular choice for planning and search. It is flexible and can be used in wide range of contexts. A* is like Greedy Best-First-Search in that it can use a heuristic to guide itself. Heuristic can be used to control A* behavior. A*'s ability to vary its behavior based on the heuristic and cost functions makes it very useful.