Research Review:

AI plan is representation of sequence of actions. There is intial state and there is a final state called goal state. We have set of intermediate states and set of all possible actions at each level.
We have to find the sequence of actions to reach from initial state to goal states.

There are different approaches to it.

Problem specific planning: use specific representation and technique to adapt to each problem and come up hard coded planning algorithms

Rather than coming with problem specific planning algorithms, the idea is to come with generic approach to solve broad range of problems, when the problem is represented in standard format.

Forward propagation: we start from given state, explore all possible actions at a given state, and move to the next state and so on and finally arrive at final state.

Backward propogational: we start from goal state, see all list of action which will result in goal state and arrive at initial state and construct the whole planning sequence

STRIPS:
STRIPS is first major planning algorithm.

A STRIPS instance is composed of:
An initial state;
The specification of the goal states – situations which the planner is trying to reach;
A set of actions. For each action, the following are included:
preconditions (what must be satisfied before the action is performed);
Effects (the effects after the action is performed)

Strips was being used in Shaky robot, the first AI robot.

ADL:
Contrary to STRIPS, the principle of the open world applies with ADL: everything not occurring in the conditions is unknown (Instead of being assumed false). In addition, whereas in STRIPS only positive literals and conjunctions are permitted, ADL allows negative literals and disjunctions as well.

PDDL:

PDDL or Planning Domain Definition Language was introduced as an attempt to standardize Artificial Intelligence planning languages in 1998. It was inspired by STRIPS and ADL. PDDL is a language that carefully balances the expressiveness of the language with the complexity of the algorithms that operate on it. PDDL has many variants which were evolved over the last couple of decades to solve complex problems. E.g. PDDL+, NDDL, MAPL, OPT etc.

References :
http://www-cs-students.stanford.edu/~pdoyle/quail/notes/pdoyle/planning.html
http://www.cogsys.wiai.uni-bamberg.de/teaching/ws0405/s_planning/slides/Introduction_AI_Planning_addon.pdf
https://ecs.victoria.ac.nz/foswiki/pub/Courses/COMP307_2017T1/LectureSchedule/lec19_Planning_4.pdf