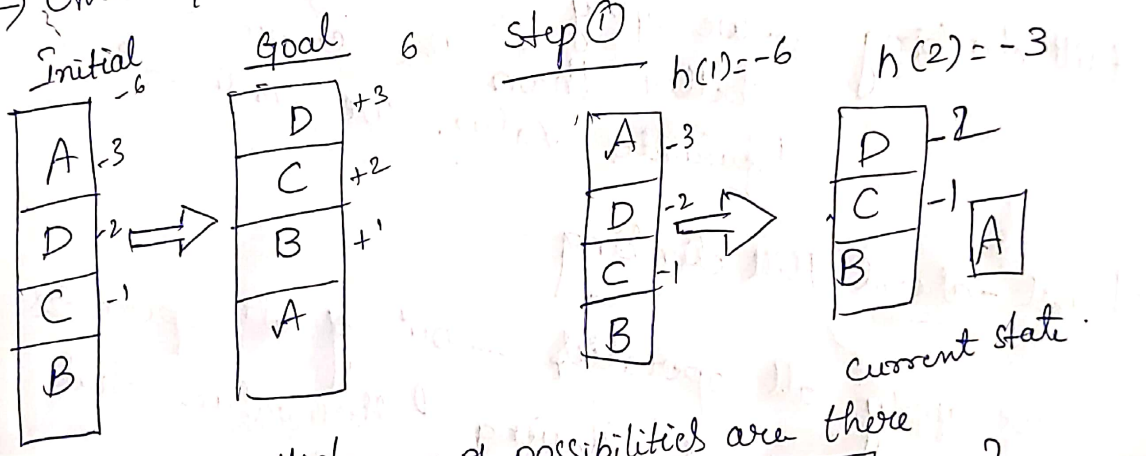
Steepest – Ascent Hill climbing.

→ To understant steepest ascent Hill climbing we consider a example.

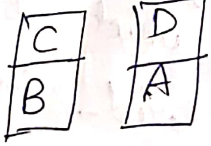
→ To move Initial state to goal state we need to apply one operator at a time and then we need to consider the heuristic value of each of those particular states.

$h(x) = +1$ → for all blocks in the support structure if the block is correctly positioned.

→ otherwise, -1 for all blocks in the support structure



→ we have multiple no of possibilities are there

(1) move D on top of A  −2 ✗

(2) move D on the ground.  −1 ✓

(3) move A on top of D and A and D on C  −6 ✗

(2) Pg No

→ Basic Hill climbing first applies one operator and gets new state.

→ Steepest - Ascent Hill climbing considers all the moves from the current state.

→ Selects the best one as the next state.

From above

out of three possibilities, best one is selected as new state & will continue

→ diff b/w Steepest and Hill climbing is

Hill climbing — we apply operator if its better than the current Heuristic value we consider it

Steepest - ascent Hill climbing

we apply all operators — out of all operators the one which is having better value that will be considered in that case.

→ According to algorithm,

Succ value updates,

~~current state~~