Initial State : $< L, 0, [0,0,0] >$

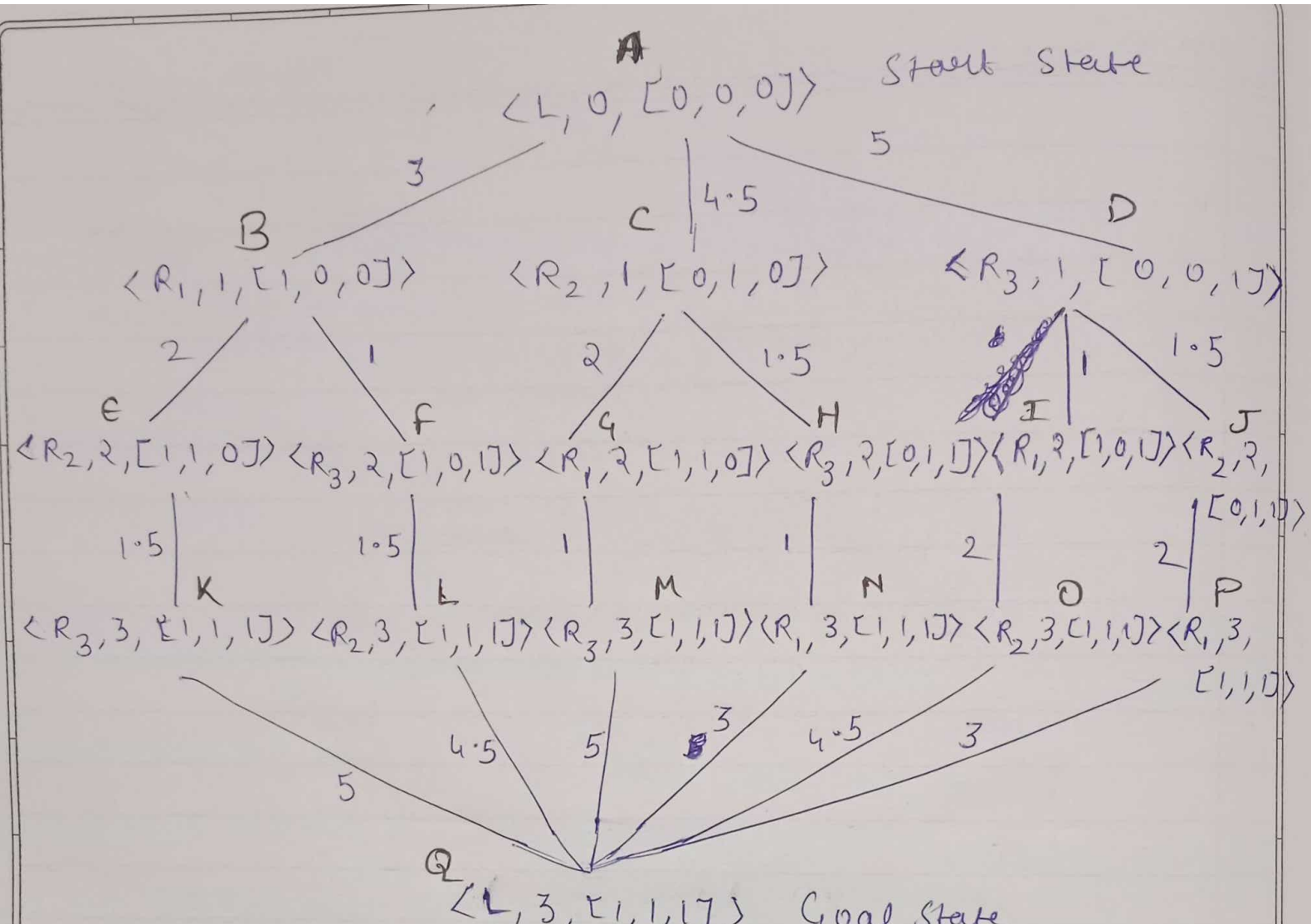
~~Rules~~ States : $< P, N, A[] >$

Here P denotes the point from where we start leaving for collecting rocks or reaching destination spot

Here N denotes no. of rocks moon rover currently has

A[] denotes the [1,3] dimension array having boolean values {1 for already visited place and 0 for unvisited place}

So initially the moon rover is at lander's place and has 0 rocks and the places of Rock 1, 2 & 3 are unvisited yet.



We have named the states alphabetically. And the paths of transition from 1 state to another state is denoted by its cost as provided in the question. We have solved this problem using A* heuristic search algorithm.

Execution: Here we are denoting the states as $S[g(s), f(s)]$ where $g(s)$ is the cost of cost function & $f(s)$ is the sum of the paths till that state. Since no $h(s)$ heuristic cost is ~~each~~ given for any node we are assumming is to be 0 and calculating the ~~cost~~ time required by the summation of paths till goal node.

	Open	Closed
1.	{A[0, 0]}	{ }
2.	{B[3, 3], C[4·5, 4·5], D[5, 5]}	{A}
3.	{E[2, 5], F[1, 4], C[4·5, 4·5], D[5, 5]}	{A, B}
4.	{L[1·5, 5·5], E[2, 5], C[4·5, 4·5], D[5, 5]}	{A, B, F}
5.	{Q[4·5, 10], E[2, 5], C[4·5, 4·5], D[5, 5]}	{A, B, F, L}
6.	{E[2, 5], C[4·5, 4·5], D[5, 5]}	{A, B, F, L, Q}

Q (Goal Node) reached. It terminated with cost 10 and path A B F L Q. 10 is the minimum cost (time) to perform the task of moon rover using A* heuristic search algorithm.