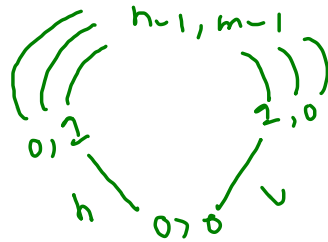


0,1 to dest  $\rightarrow$  hvv, vv h, v h v

0,0 to dest  $\rightarrow$  hhv, hv h, hv h v



1,0 to dest  $\rightarrow$  hhv, hv h, v h h

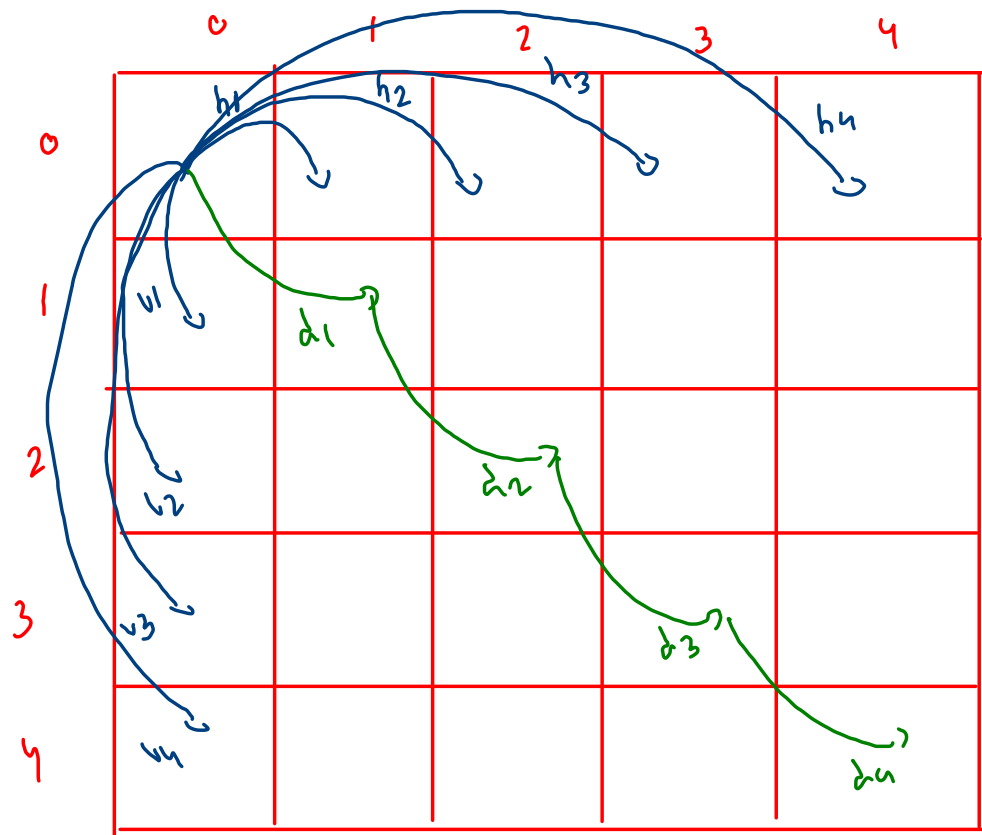
0,0 to dest  $\rightarrow$  v h h v, v h v h, v v h h

0,0 to dest  $\rightarrow$  hhv, hv h, hv h v, v h h v, v h v h, v v h h.

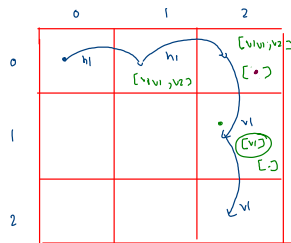


The diagram illustrates the state space of a 3-disk Tower of Hanoi problem. The root node is labeled  $[h, v, h]$ . The tree branches out into various states, with some nodes highlighted in red and others in green. The states are labeled with coordinates  $(x, y, z)$  where  $x, y, and z$  represent the positions of the three disks. The tree shows the sequence of moves ( $h$  for horizontal,  $v$  for vertical) and the resulting states. The final state shown is  $[h, v, h]$ .

[hhu, hu, hu, hu, hu, hu, hu]



$dr = 2, dc = 2$



```
//horizontal nbr
for(int i=1; sc + i <= dc ; i++) {
    ArrayList<String>hntd = getMazePaths(sr,sc + i,dr,dc);

    for(int j=0; j < hntd.size();j++) {
        std.add("h" + i + hntd.get(j));
    }
}

//vertical nbr
for(int i=1; sr + i <= dr ; i++) {
    ArrayList<String>vntd = getMazePaths(sr + i,sc,dr,dc);

    for(int j=0; j < vntd.size();j++) {
        std.add("v" + i + vntd.get(j));
    }
}

//diagonal nbr
for(int i=1; sr + i <= dr && sc + i <= dc ; i++) {
    ArrayList<String>dntd = getMazePaths(sr + i ,sc + i,dr,dc);

    for(int j=0; j < dntd.size();j++) {
        std.add("d" + i + dntd.get(j));
    }
}
```

