

1...9

	1	2	3	i	0	3
1	2	3	3	3	3	3
a	ab e	abc lc	abc ^a lcs	abc ^a lcs aws	abc ^a lcs aws	abc ^a lcs aws

123003

①

check
single ✓
+ qb[i-1]

pair ✓
+ qb[i-2]

[abc^a
lcs
aws] ↗ [c]

03 ↗ x

1 2 3 1 0 3 ↗

cont.
single
1...9
pair
10...26
i-1
i-2

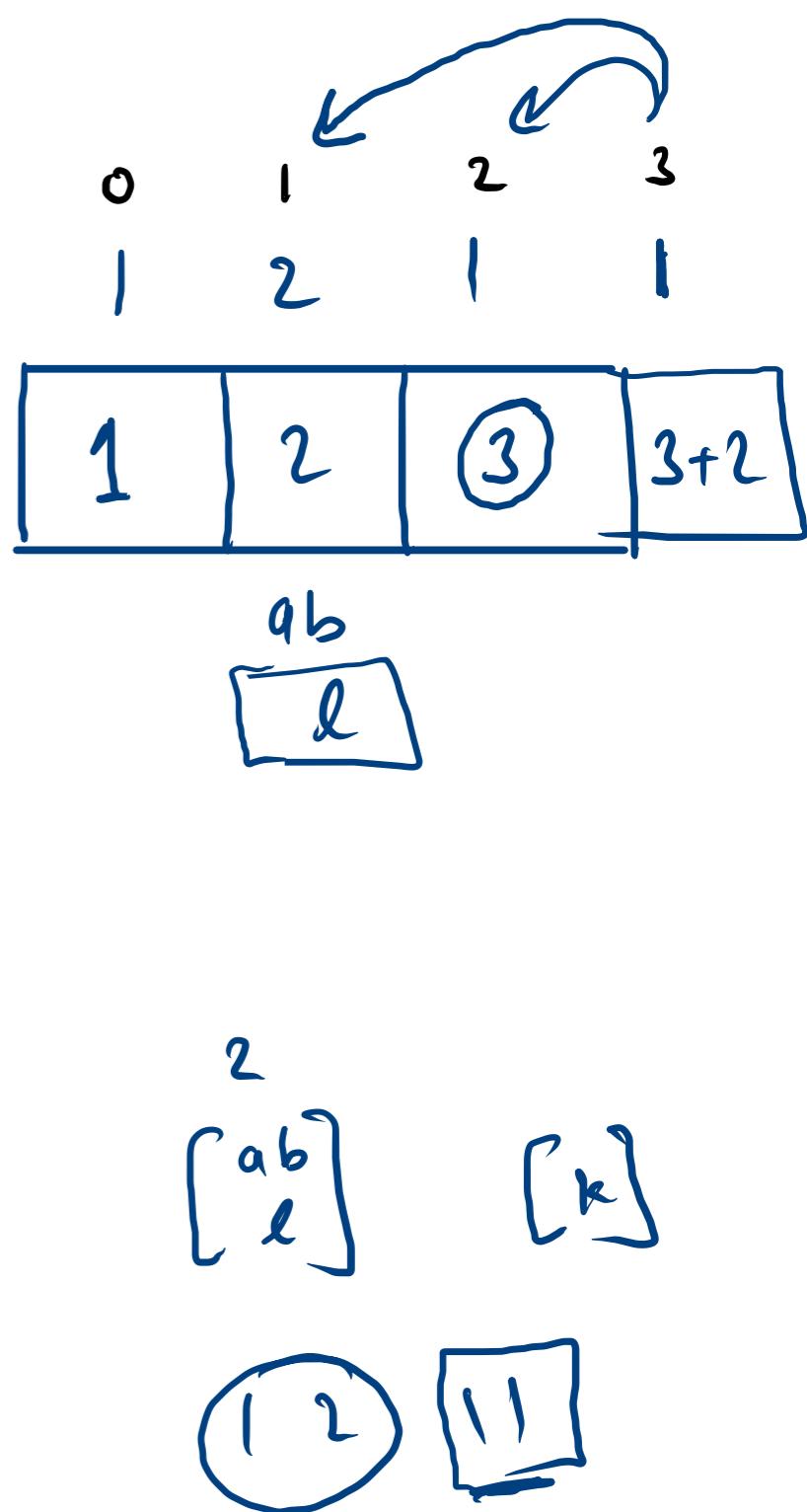
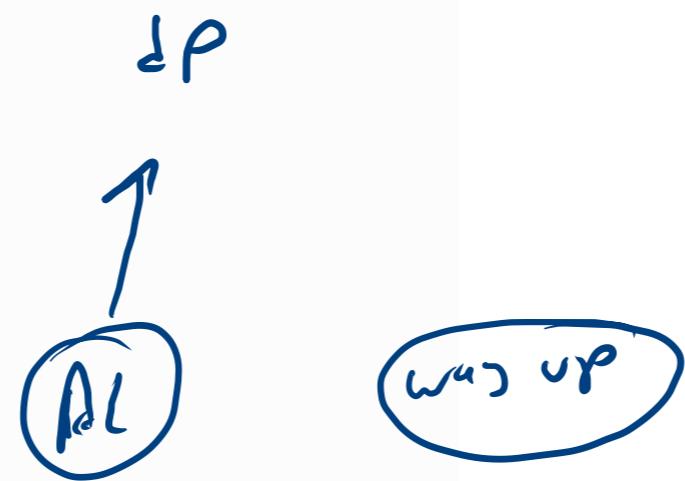
```

int qb[] = new int[n];
qb[0] = 1;

for(int i=1; i<n; i++){
    int single = s.charAt(i) - '0';
    if(single >= 1 && single <= 9){
        qb[i] += qb[i-1];
    }

    int pair = Integer.parseInt(s.substring(i-1, i+1));
    if(pair>=10 && pair<=26){
        int ind = i-2;
        if(ind == -1){
            qb[i] += 1;
        }else{
            qb[i] += qb[ind];
        }
    }
}

```

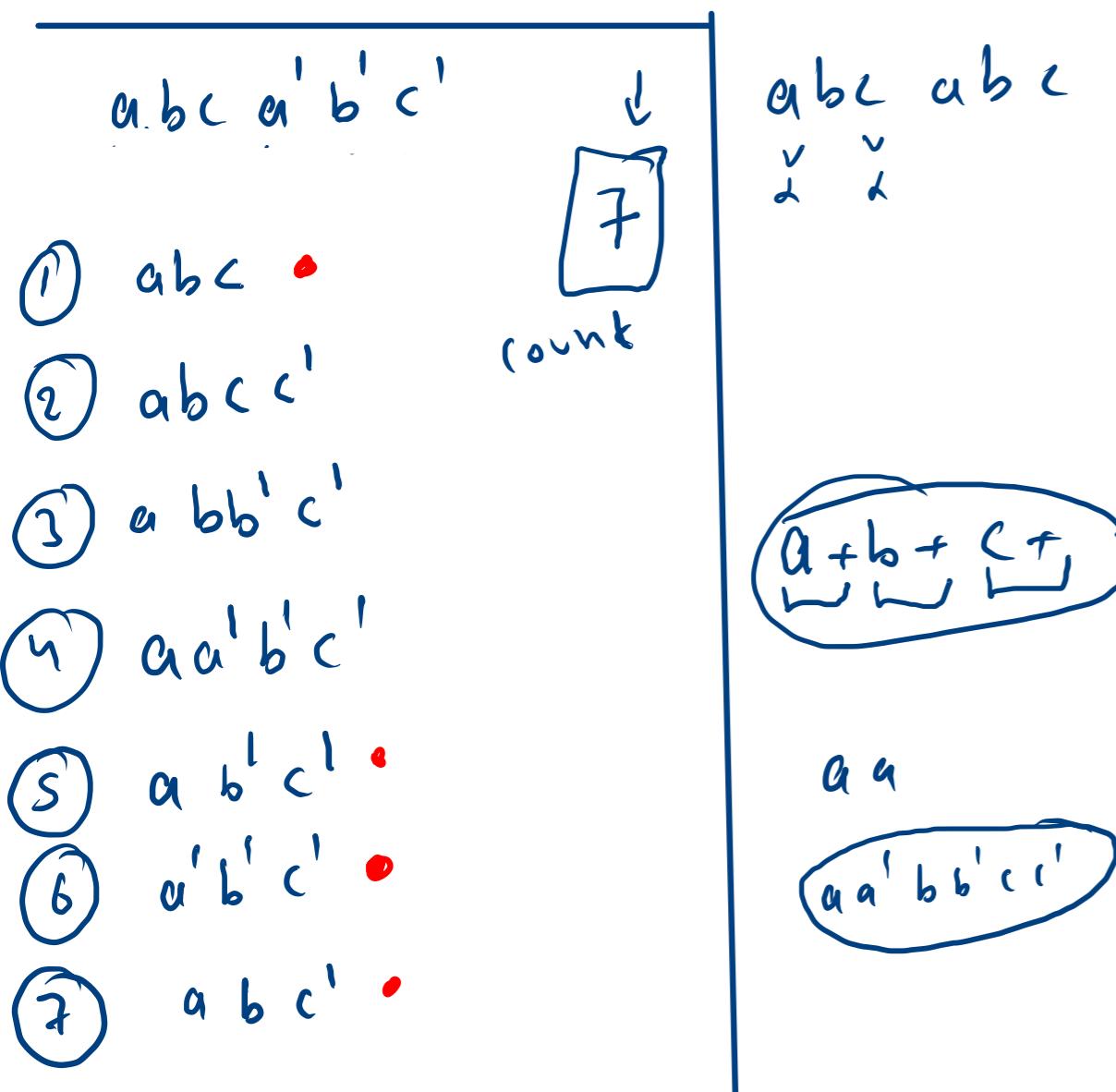


For abbc -> there are 3 subsequences. abc, abc, abbc

For abcabc -> there are 7 subsequences. abc, abc, abbc, aabc, abcc, abc, abc.

2D

storage
mechanism
direction

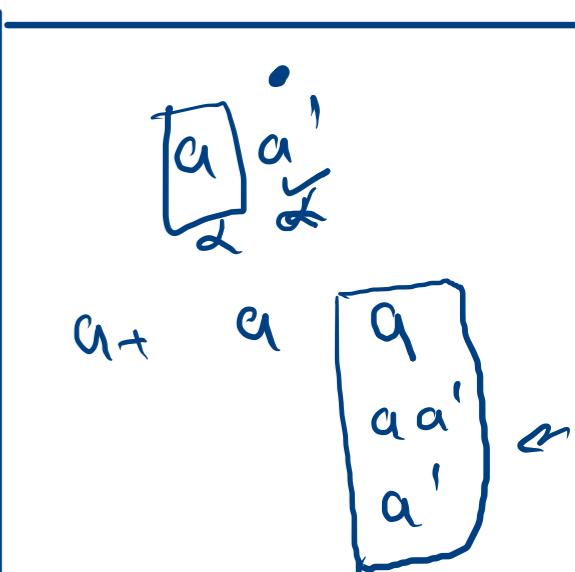


abc abc
v v
 $n=6$
① subsequence

at least 1 a
aaabbbccc
aabbcc

abc
a b c
a' b' c'
a b c'

✓
✓
✓



$a+b$
 $a+b+c$

$a+$

$a+b+$

$a+b+c+$

a	b	c	a'	b'	c'	
0	1	1	$a, a'a', a'$	3	$a, a'a', a'$	3
0	ab	1	$a b', a a' b', a' b'$	5	$a b', a a' b', a' b'$	5
0	abc	1	$a b b', a b$	2	$a b b', a b$	2

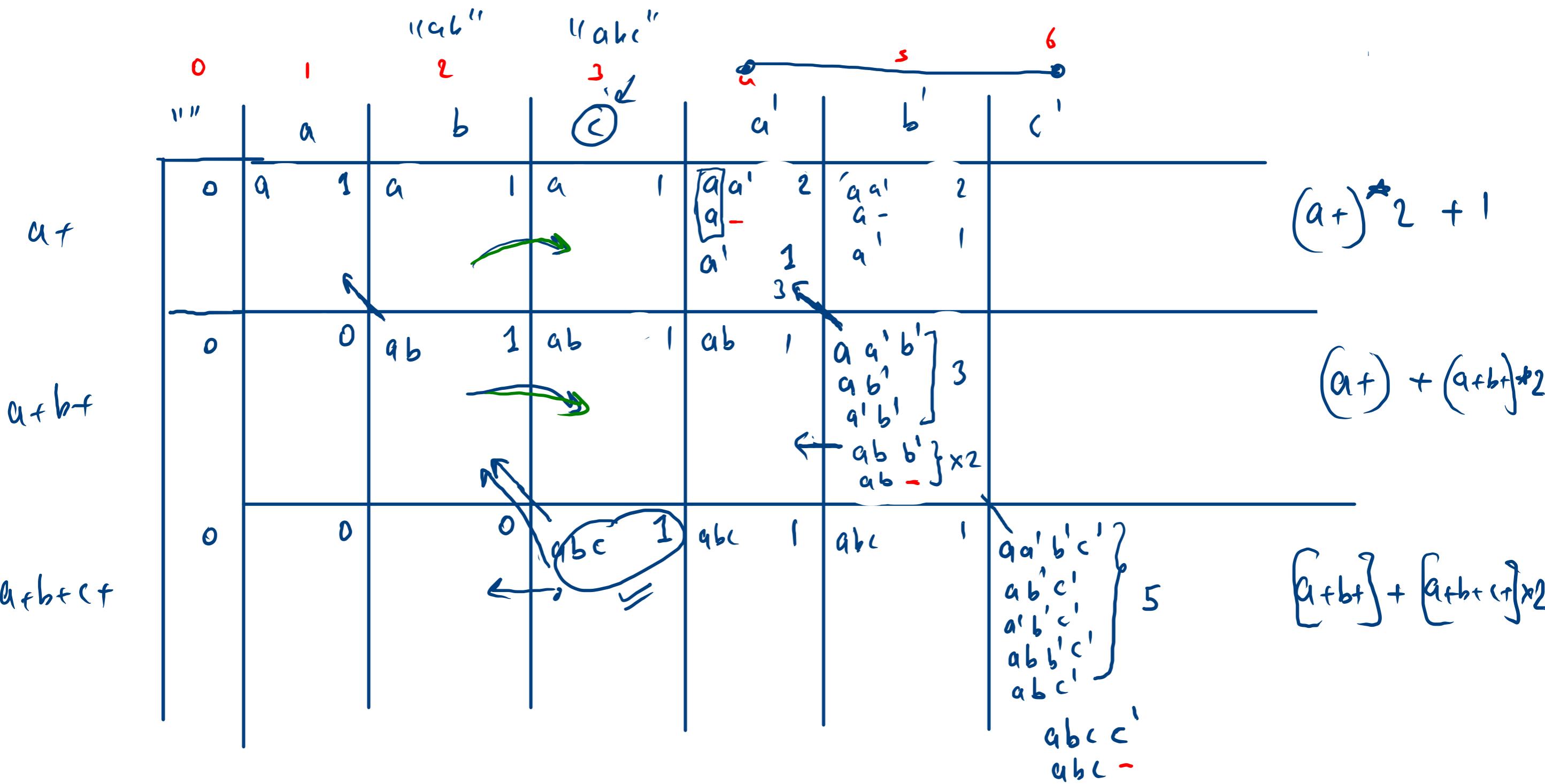
h column
3 row

$a+b+c$

②

$a b', a a' b', a' b'$
 $a b b', a b$
 $a b', a a' b', a' b'$
 $a b b', a b$
 $a b, a b'$

$a b, a b'$
 $a b, a b'$
 $a b, a b'$
 $a b, a b'$



```

int qb[][] = new int[3][n+1];
for(int i=1;i<=n;i++){
    char ch = s.charAt(i-1);
    qb[0][i] = qb[0][i-1];
    qb[1][i] = qb[1][i-1];
    qb[2][i] = qb[2][i-1];
    if(ch == 'a'){
        qb[0][i] = qb[0][i-1]*2+1;
    }else if(ch == 'b'){
        qb[1][i] = qb[1][i-1]*2 + qb[0][i-1];
    }else{
        qb[2][i] = qb[2][i-1] * 2 + qb[1][i-1];
    }
}

```

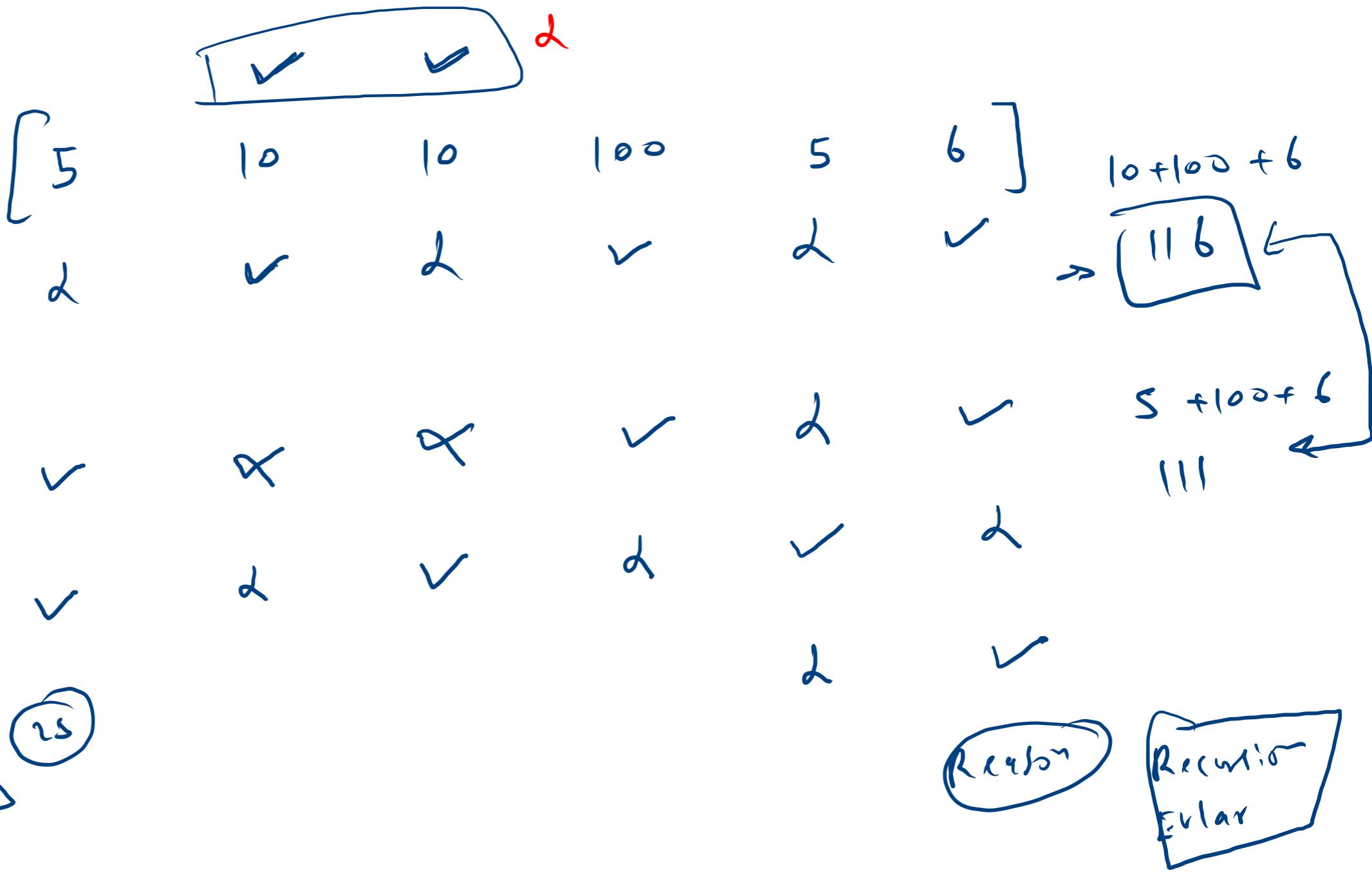
$\xrightarrow{qb \rightarrow 0}$ $\xrightarrow{qb \rightarrow 1}$ $\xrightarrow{qb \rightarrow 2}$

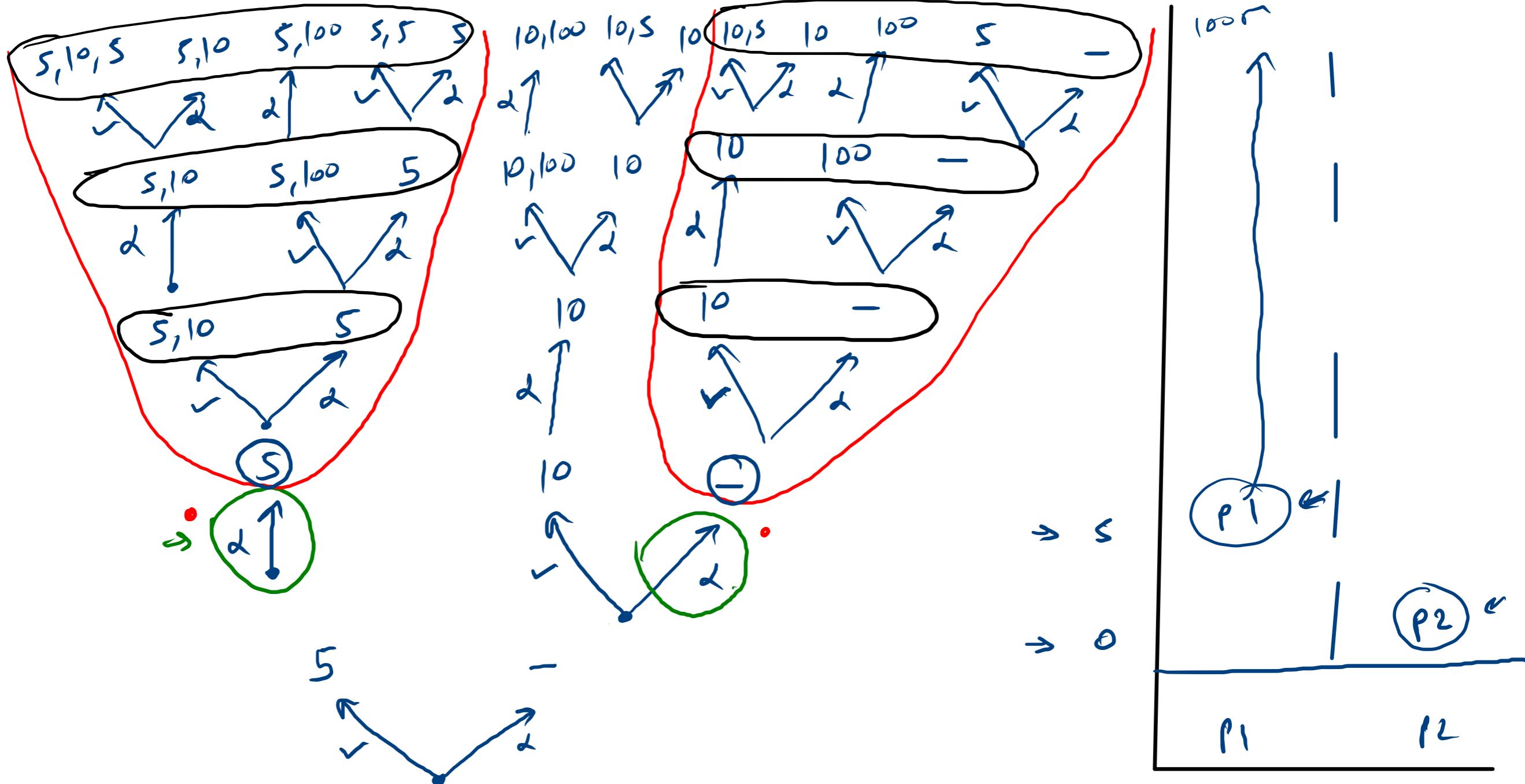
Shw

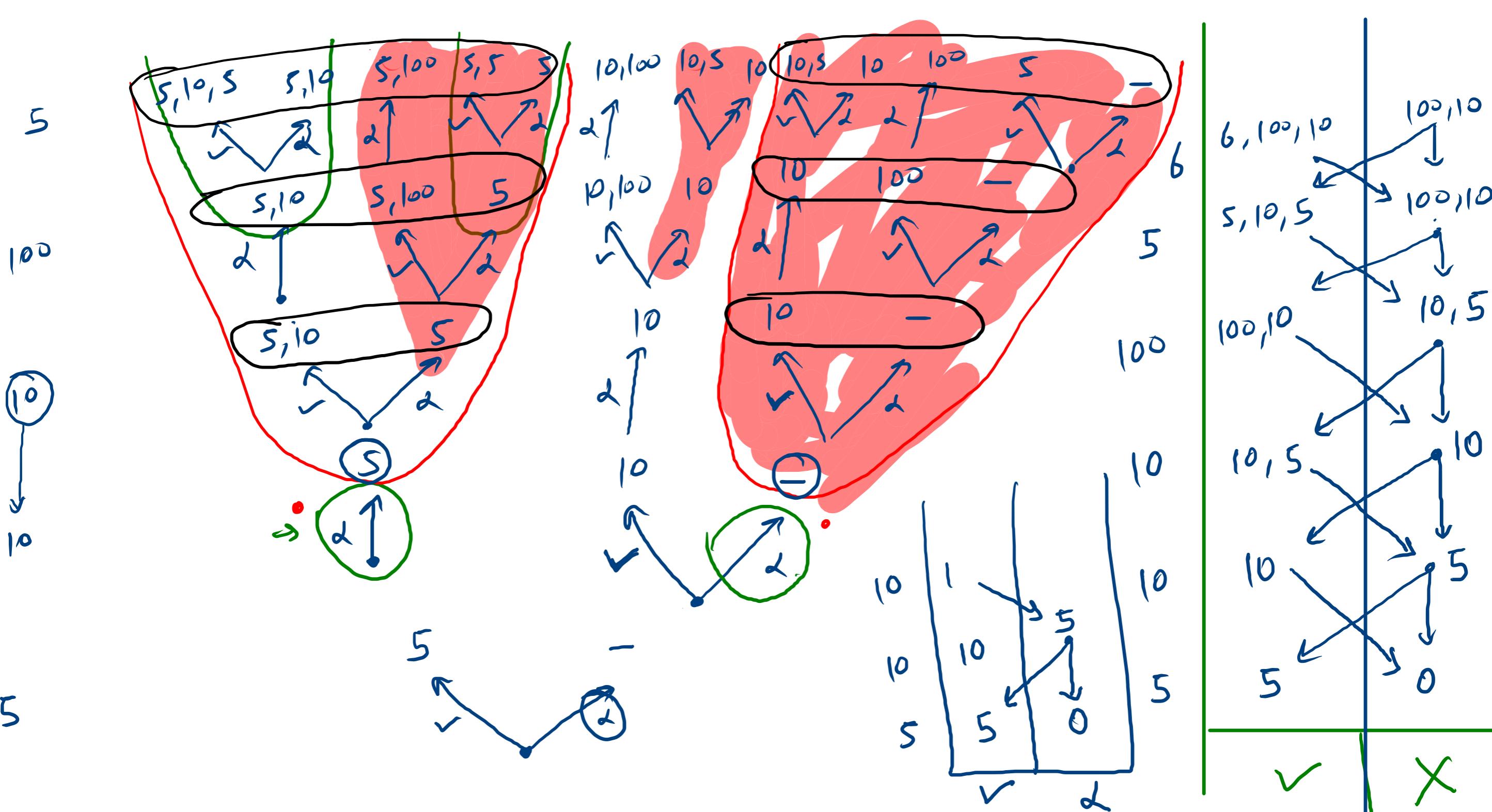
a	b	c
0	1	2
0	1	1
0	0	1
0	0	1

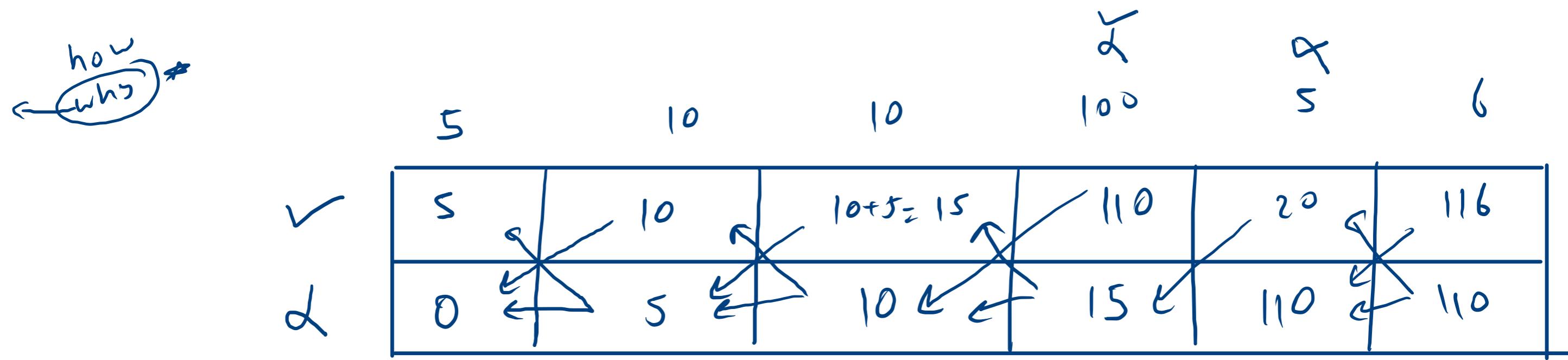
Diagram illustrating the state transition for character 'a'. The initial state is at index 0, value 0. It transitions to index 1, value 1. From index 1, value 1, it transitions to index 2, value 1. The final state is at index 2, value 1.

ar









```

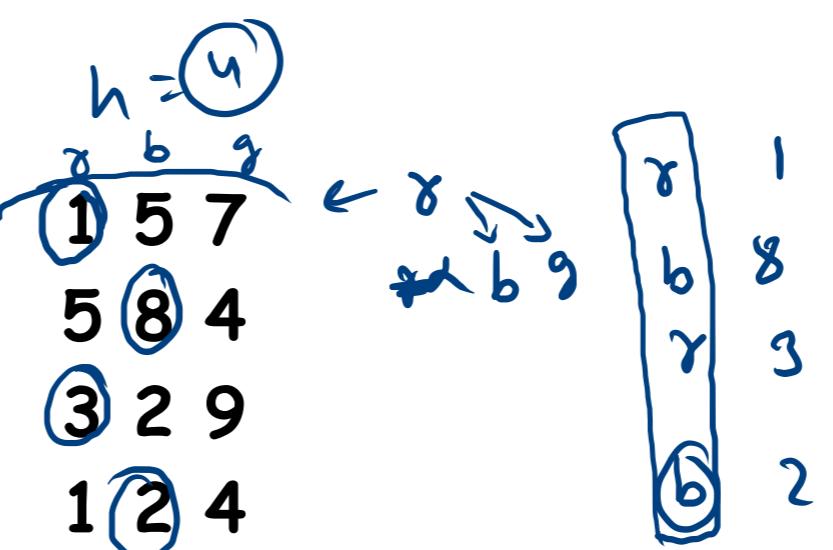
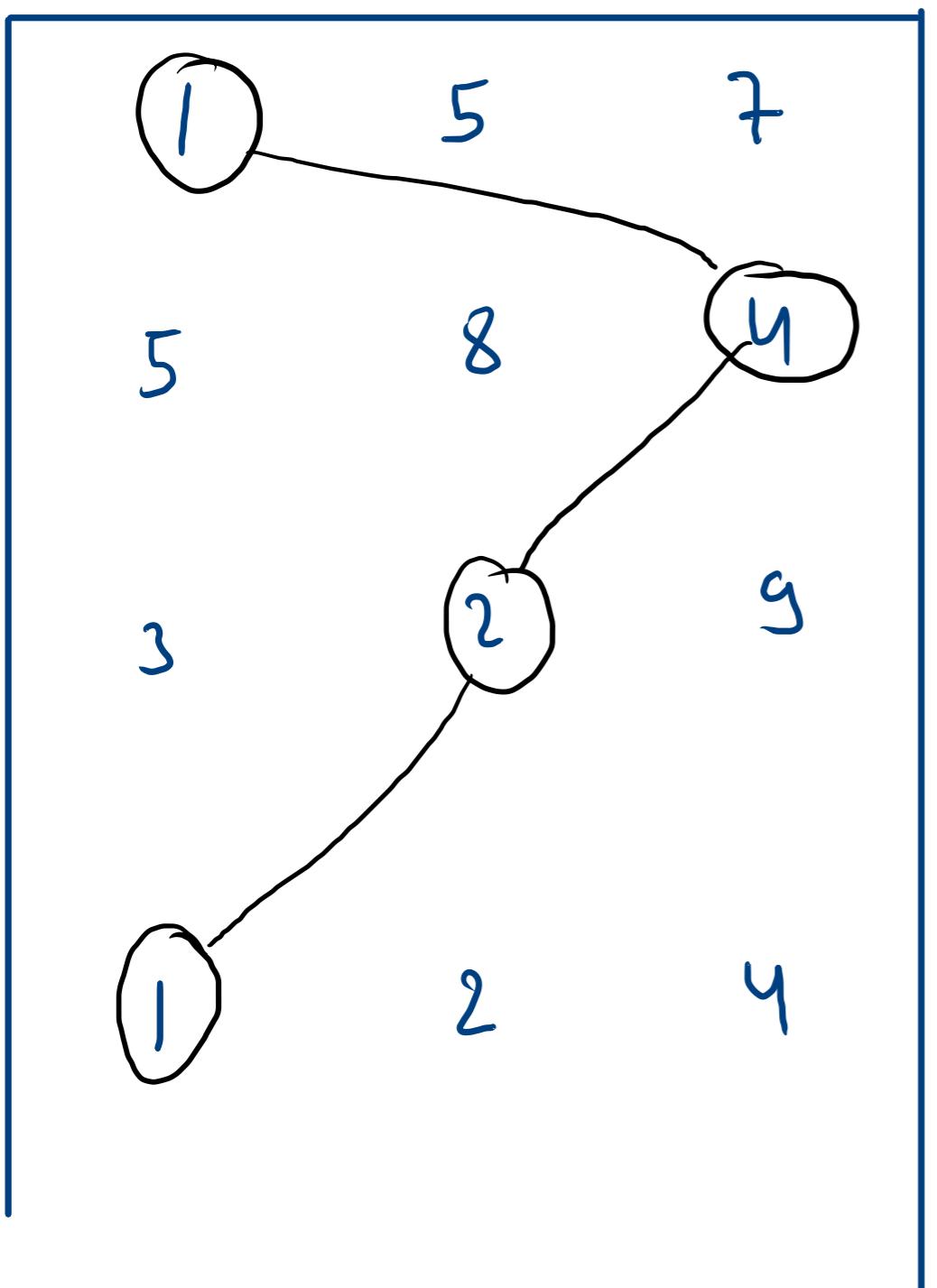
int inc[] = new int[n];
int exc[] = new int[n];

inc[0] = arr[0]; •

for(int i=1; i<n; i++){
    inc[i] = exc[i-1] + arr[i];
    exc[i] = Math.max(inc[i-1], exc[i-1]);
}

System.out.println(Math.max(inc[n-1], exc[n-1]));

```



pair com min

γ b g b ✓

γ b b g ✗

3 8 solvhd

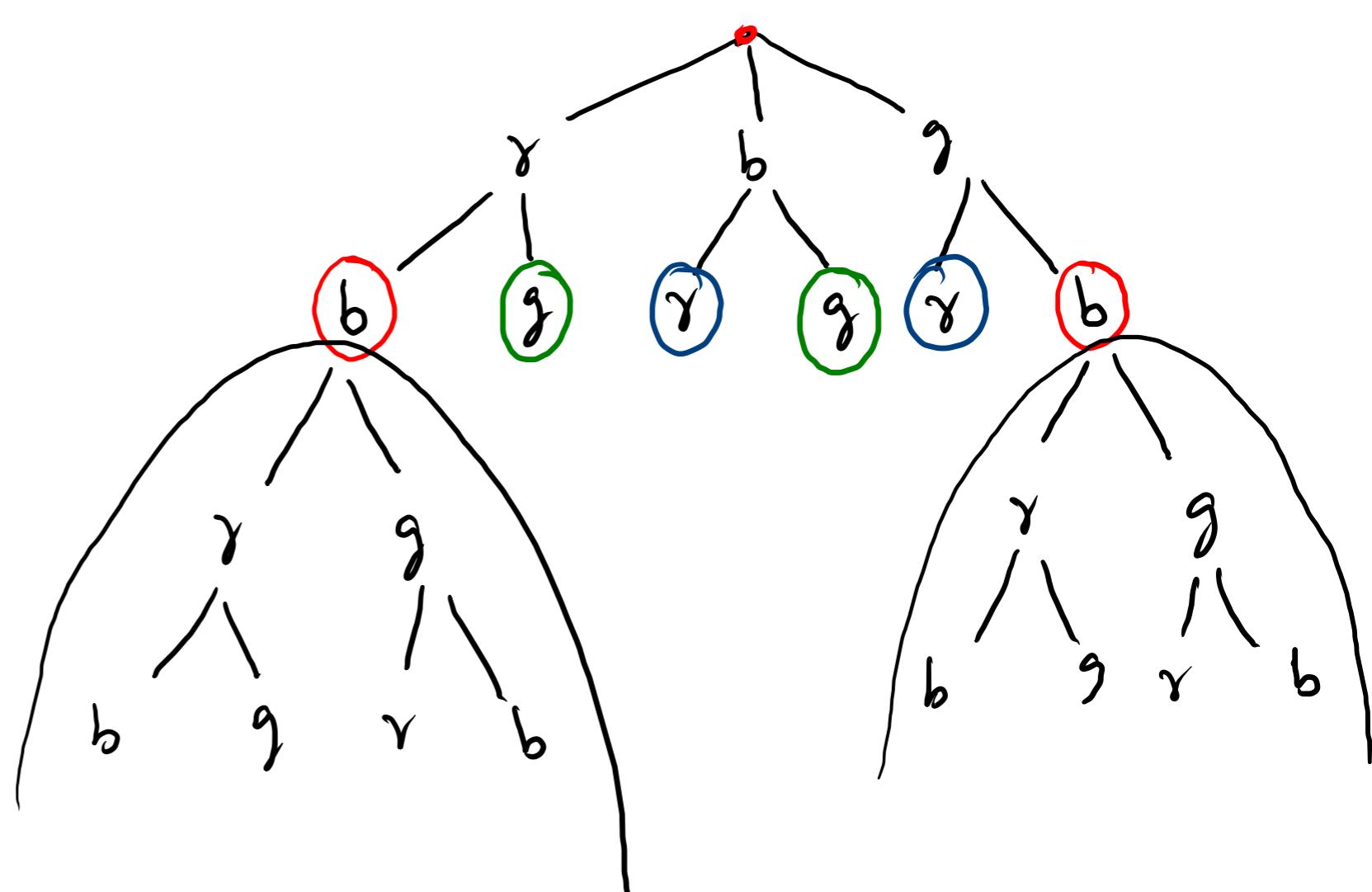
$$\frac{1+4+2+1}{5} = \frac{8}{5}$$

ge2

b1e

green

1	5	7
5	8	4
3	2	9
1	2	4



ye2	b1e	green	cost
1	5	7	
5	8	4	
3	2	4	
1	2	4	

