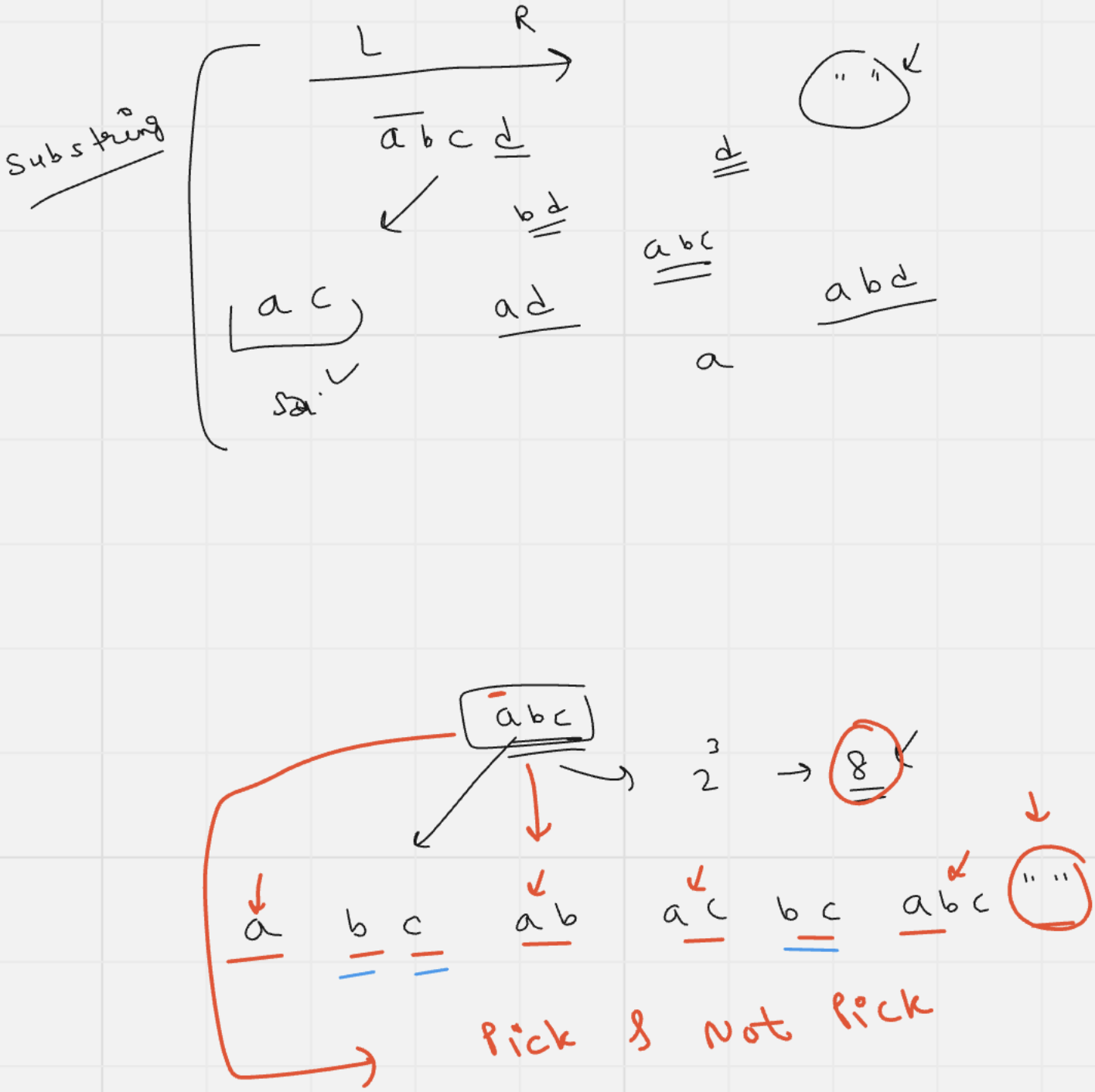
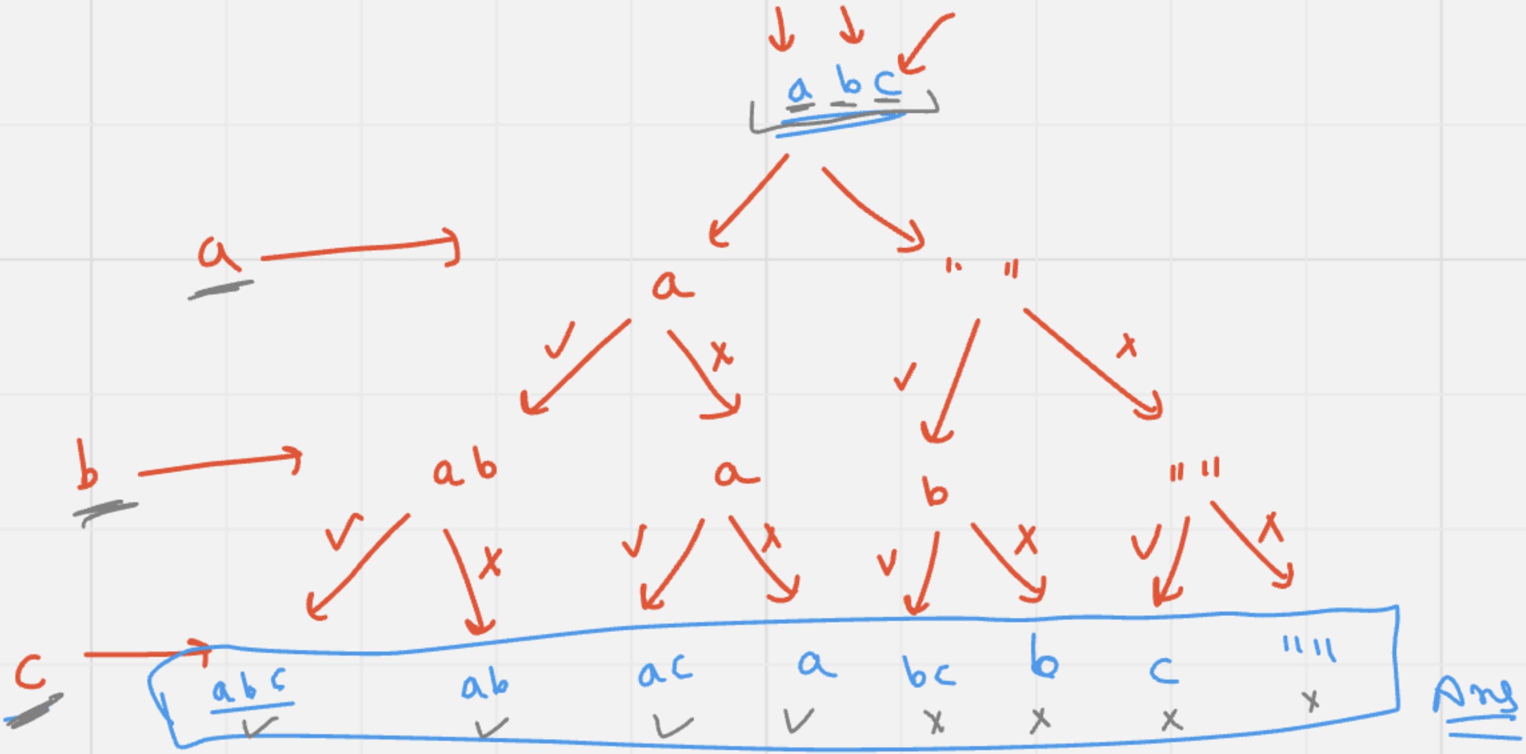
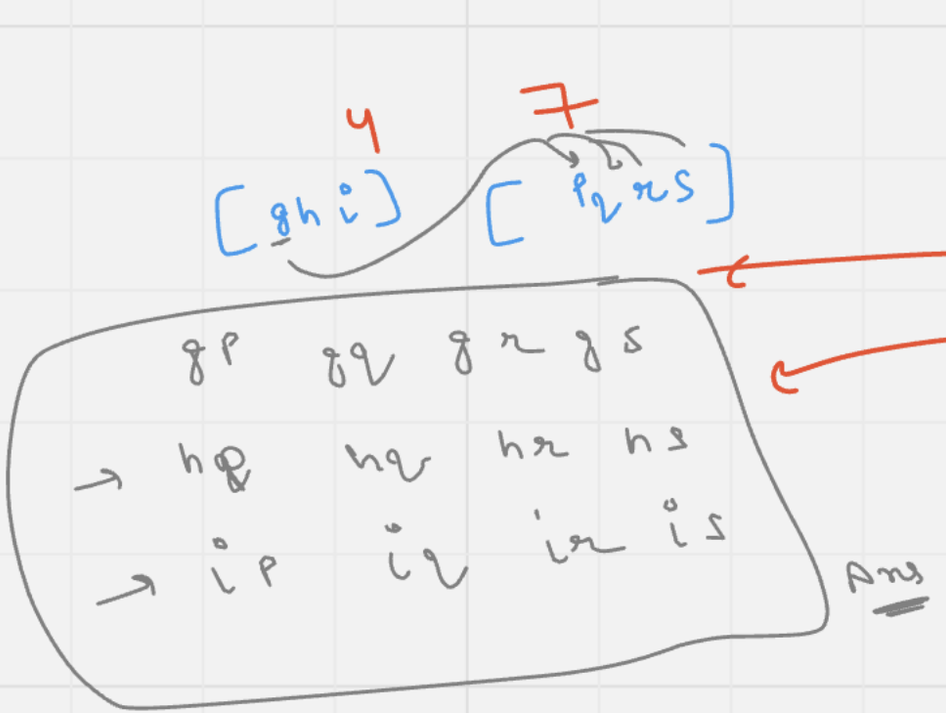
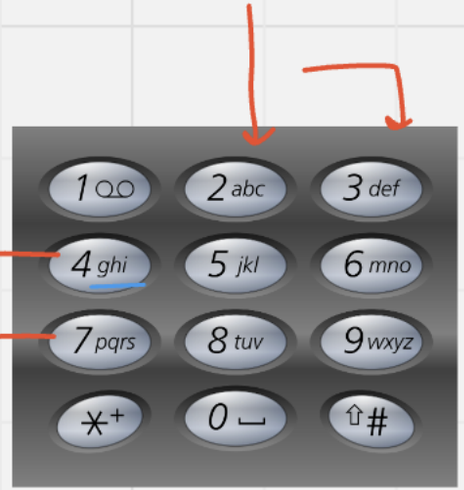

Substring
L
R
abcd
bd
ac
ad
abc
abd
d
a
""

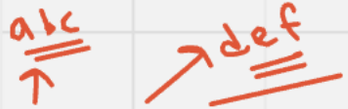
abc
2^3
8
a
b c
ab
ac
bc
abc
""
Pick & Not Pick

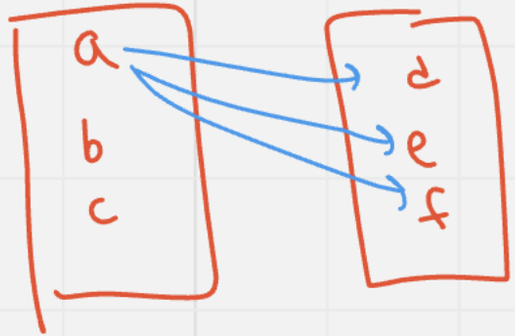


abc
a
b
c
a
" "
ab
a
b
" "
abc
ab
ac
a
bc
b
c
""
Ans









[ad ae af bd be bf
cd ce cf

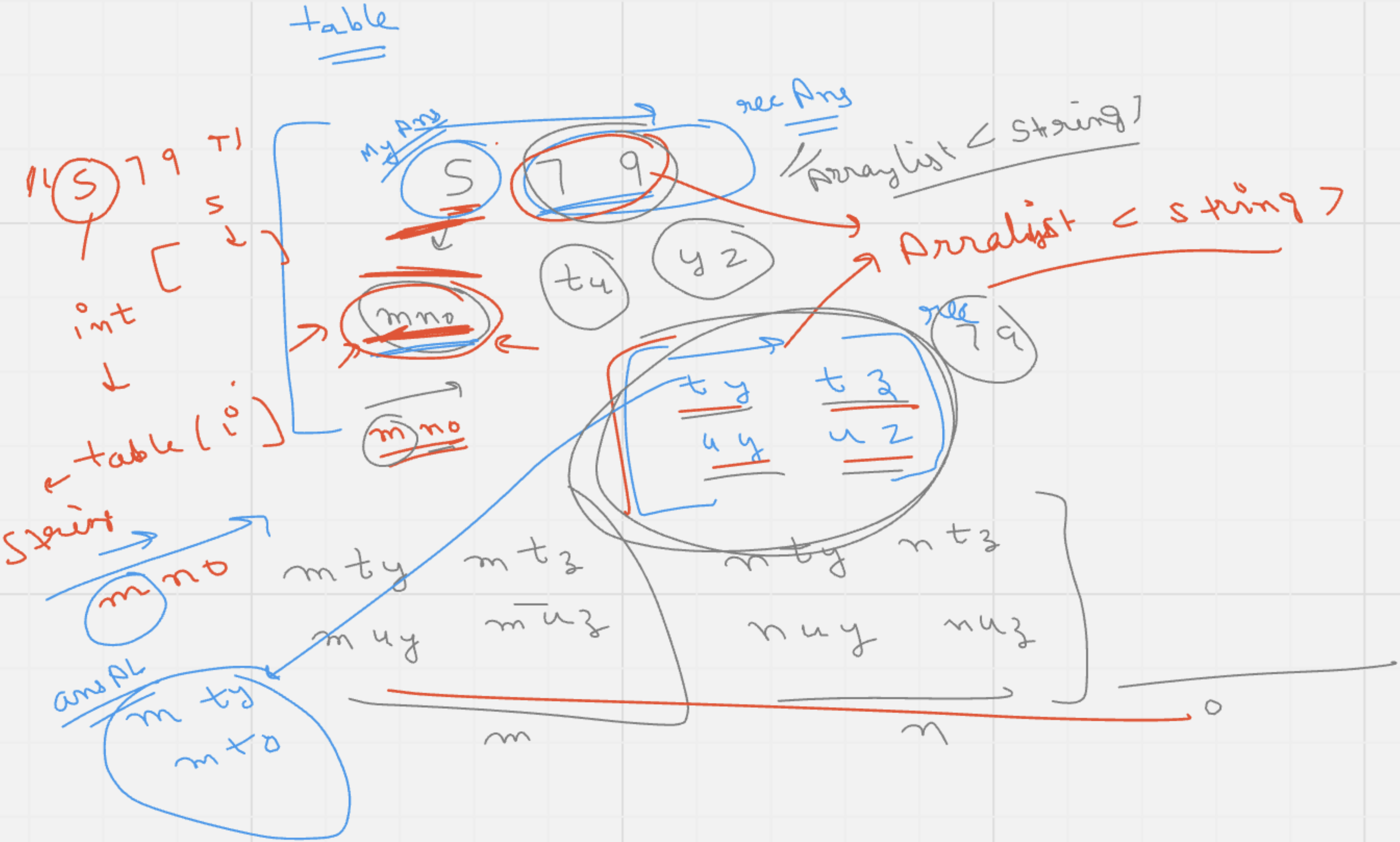
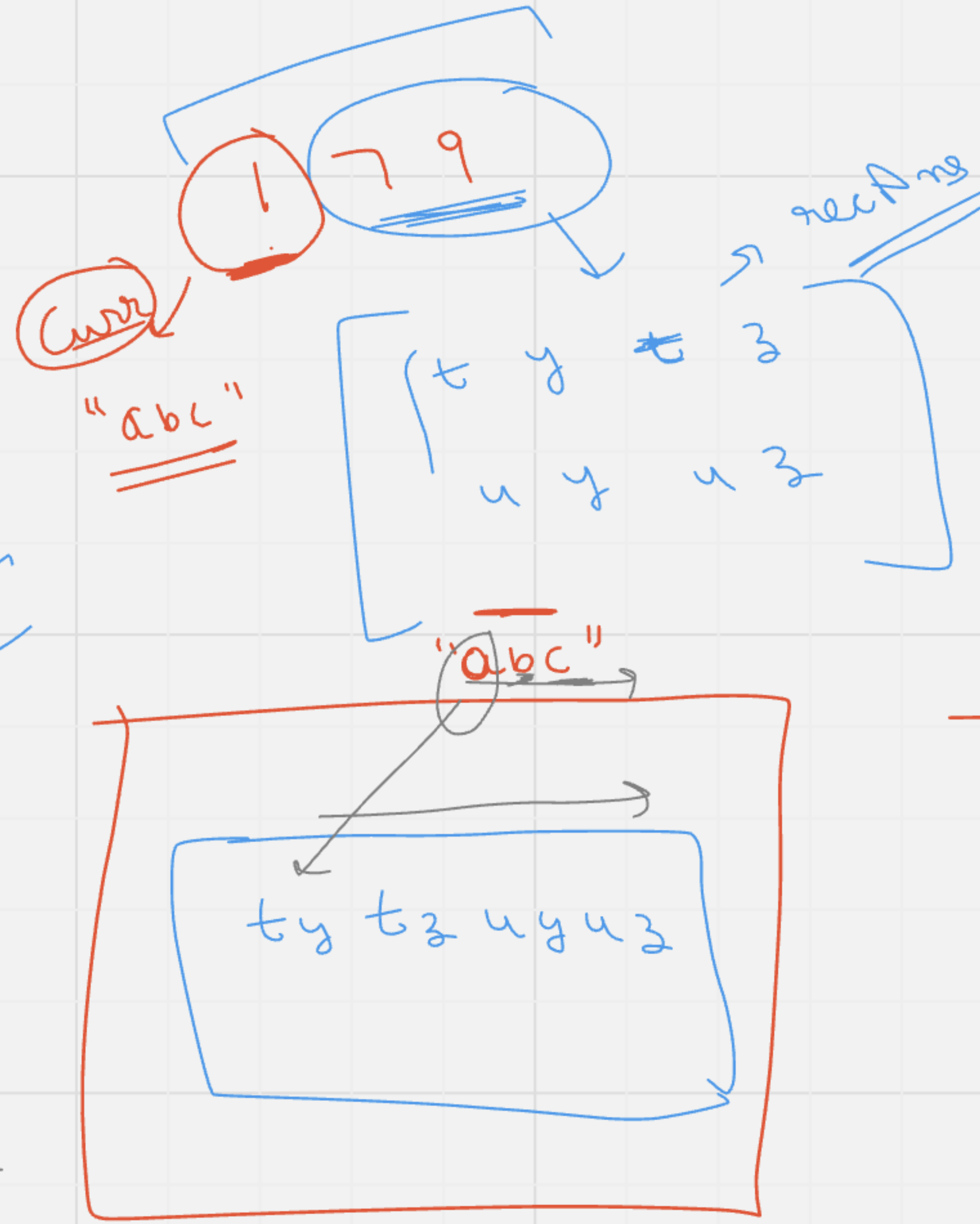


table
myAns
recAns
// ArrayList < String >
ArrayList < String >
"579"
int
table[i]
String
mno
t4
y2
rec
79
ansAL
mty
mtz
muy
muz
nty
ntz
nuy
nuz

0 -> .;
1 -> abc
2 -> def
3 -> ghi
4 -> jkl
5 -> mno
6 -> pqrs
7 -> tu
8 -> vwx
9 -> yz




```
static String table[] = {".;", "abc", "def", "ghi", "jkl", "mno", "pqrs", "tu", "vwx", "yz"};

static ArrayList<String> helper(String s) {
    // "123"  -> "23"

    if(s.length() == 1){
        ArrayList<String> output = new ArrayList<>();

        String curr = table[Integer.parseInt(s.charAt(0)+"")];

        for(int i = 0; i < curr.length(); i++) {
            output.add(curr.charAt(i)+"");
        }

        return output;
    }

    ArrayList<String> recAns = helper(s.substring(1));
    String curr = table[Integer.parseInt(s.charAt(0)+"")];

    ArrayList<String> output = new ArrayList<>();

    for(int i = 0; i < curr.length(); i++) {

        for(int j = 0; j < recAns.size(); j++) {

            String sa = curr.charAt(i) + recAns.get(j);

            output.add(sa);
        }
    }

    return output;

}
```

curr = jkl

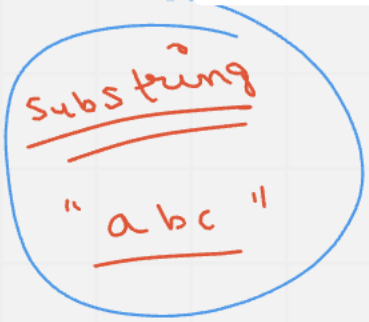
return ["j" "k" "l"]

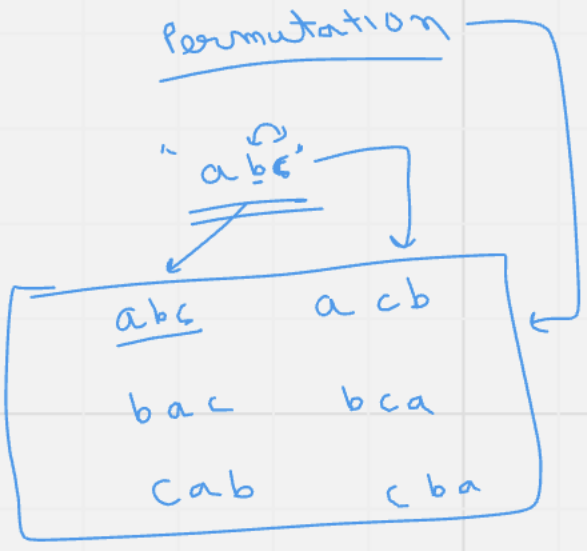
output

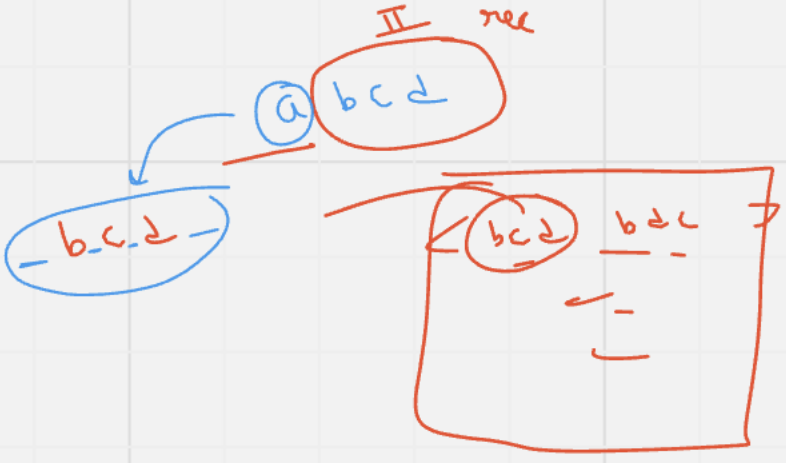
aty atz auy auz
bty btz buy buz
cty ctz cuy cuz

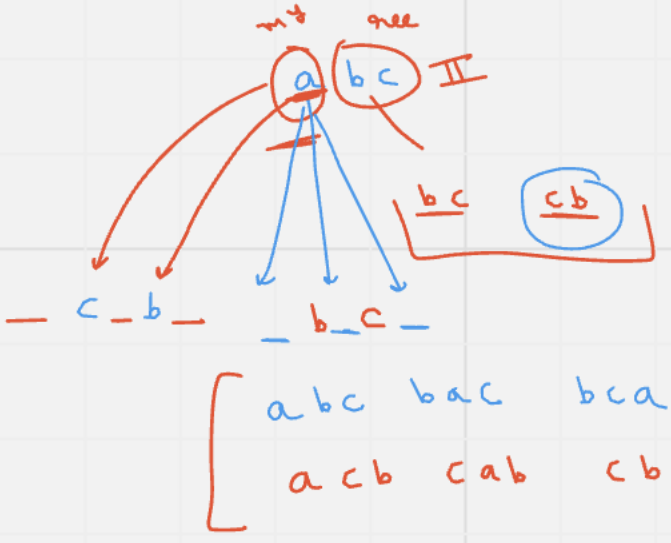
final Ans

output









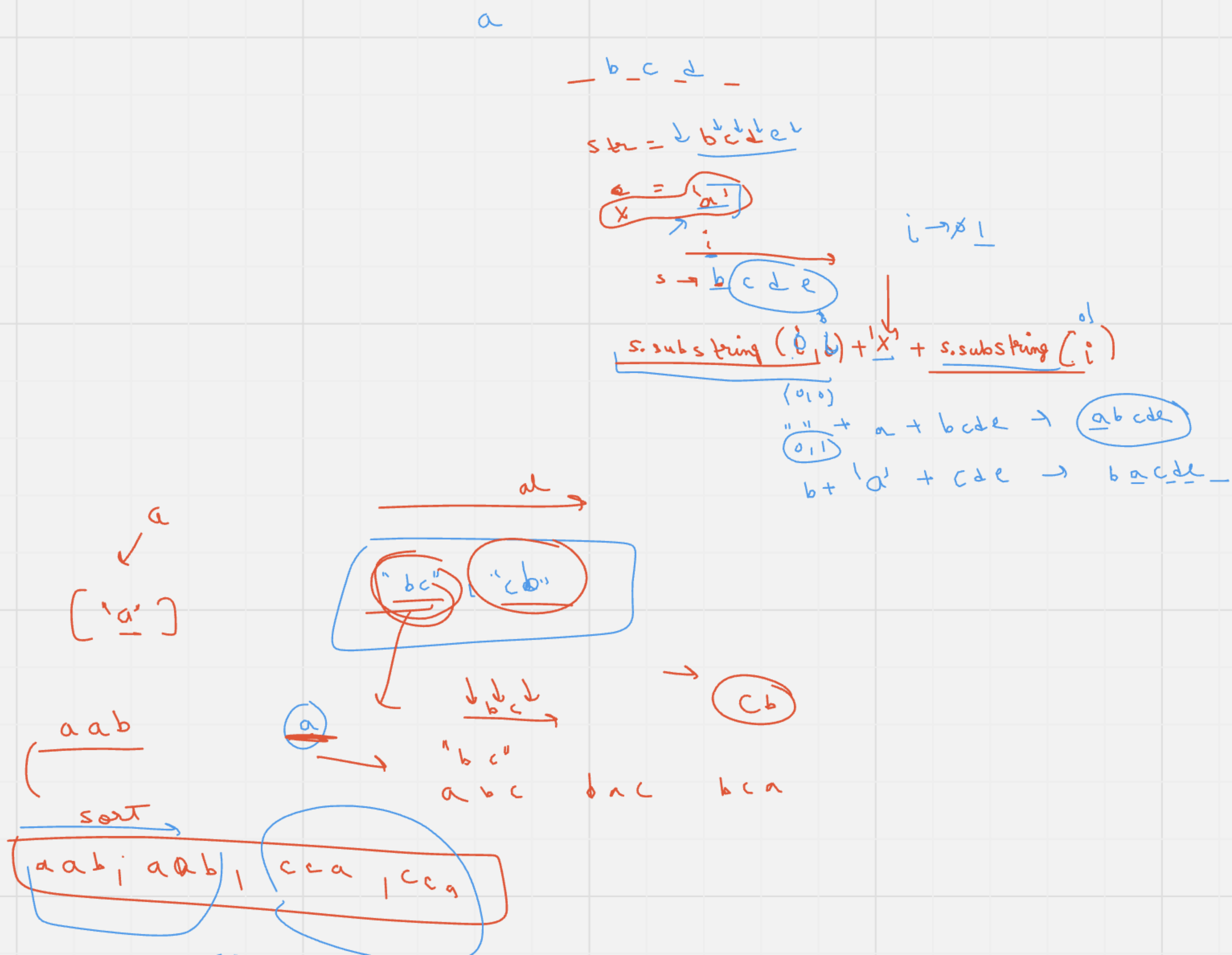
a

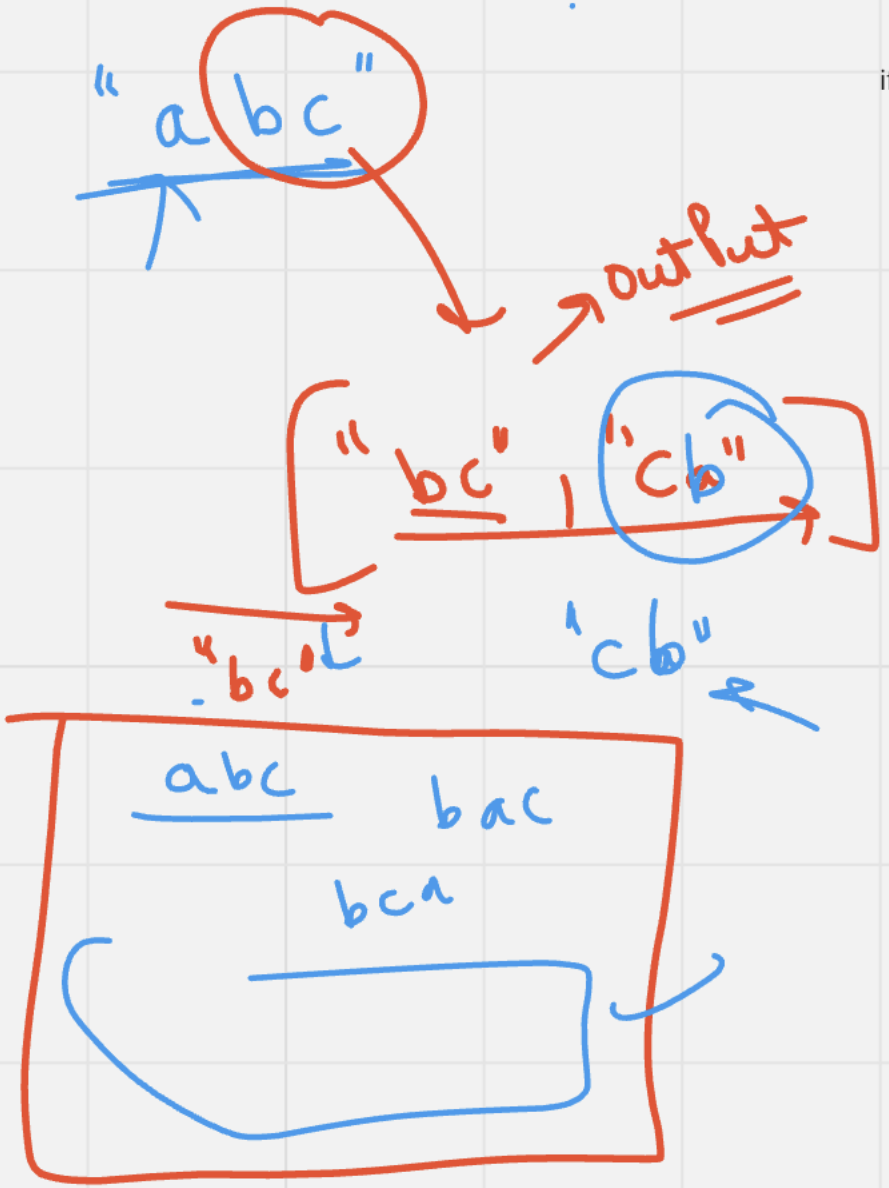
y

_b_c_d_

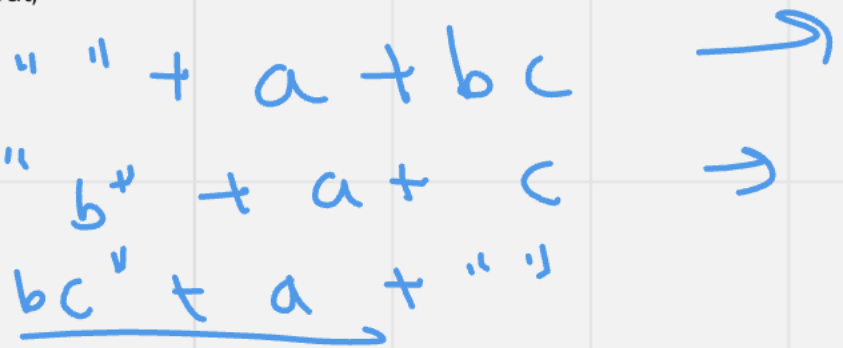
4 possible

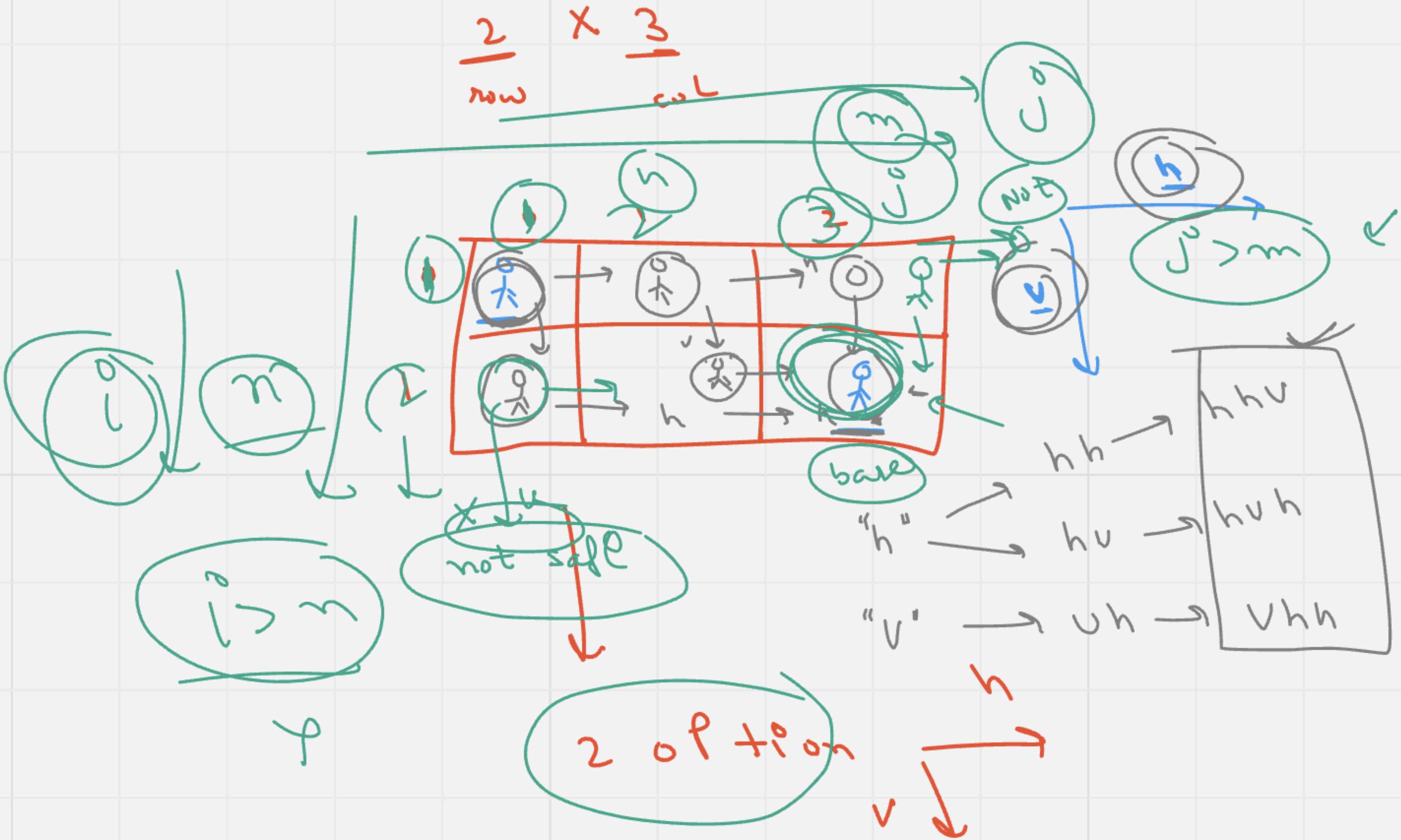
abcd
bacd
bcad
bcda


a
_ b _ c _ d _
str = bcde
x = 'a'
i → 0 1
s → b c d e
s.substring(0, i) + 'x' + s.substring(i)
(0, 0)
" " + a + bcde → abcde
(0, 1)
b + 'a' + cde → bacde_
a
['a']
"bc" "cb"
bc
cb
aab
"b c"
a b c   b a c   b c a
sort
aab, aab, cca, cca




```
if(s.length() == 1) {
        ArrayList<String> output = new ArrayList<String>();
        output.add(s);
        return output;
    }

    // recAns
    ArrayList<String> recAns = helper(s.substring(1));

    ArrayList<String> output = new ArrayList<String>();

    for(int i = 0; i < recAns.size(); i++) {
        String curr = recAns.get(i);

        for(int j = 0; j <= curr.length(); j++) {
            String sa = curr.substring(0, j) + s.charAt(0) + curr.substring(j);
            output.add(sa);
        }
    }

    return output;
```




2 x 3
row
col
i
n
j
m
not
j > m
i > n
not safe
base
2 option
"h"
"v"
hh
hv
vh
hhv
hvh
vhh

hhv
hvh
vhh