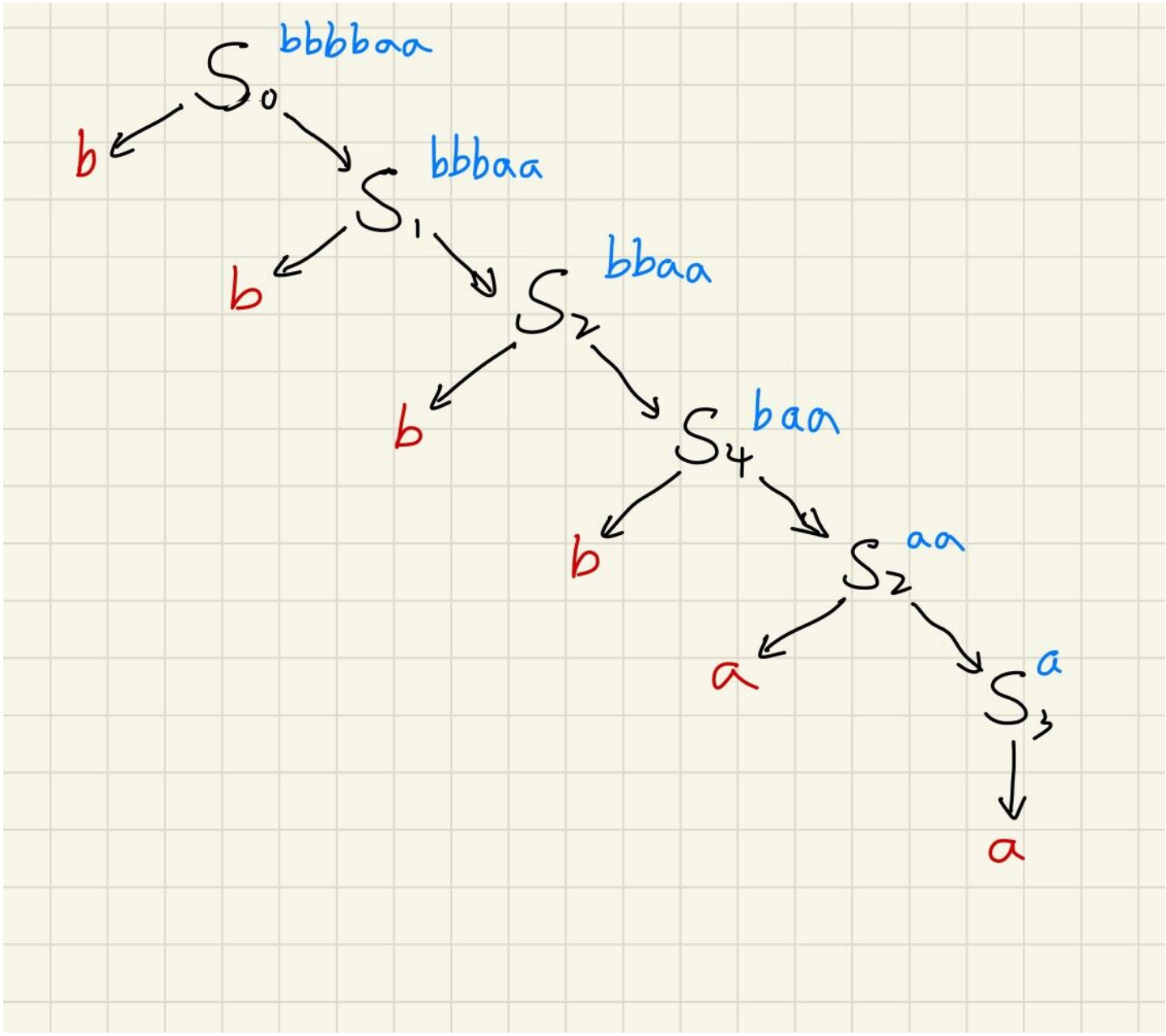
Homework

Problem 1

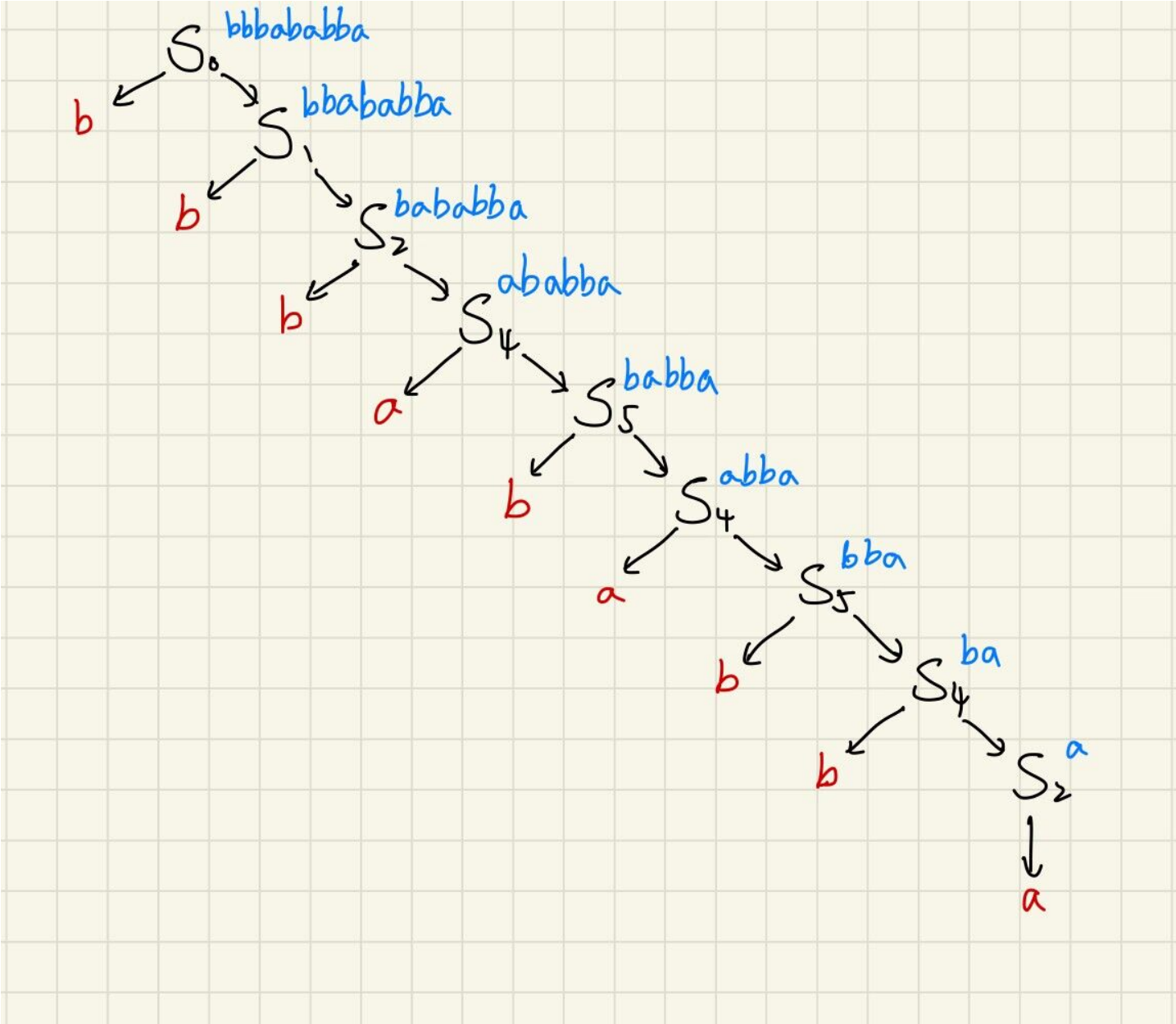
$G = (V, T, S, P), V = \{S_0, S_1, S_2, S_3, S_4, S_5, a, b\}, T = \{a, b\}, S = \{S_0\}, P = \{S_0 \to bS_1, S_1 \to bS_2, S_2 \to a, S_2 \to aS_3, S_3 \to aS_3, S_3 \to a, S_2 \to bS_4, S_4 \to aS_5, S_5 \to bS_4, S_4 \to bS_2\}$.

derivation trees:

(i) bbbbaa



(ii) bbbababba



Problem 2

< arithmetic expression >::=
< quantity >|< arithmetic expression >< binary operator >< arithmetic expression >|< sign >< arithmetic expression >|< left parenthesis >< arithmetic expression >< right parenthesis >
< quantity >::=
< variable >|< constant >
< binary operator >::=
+|-|*|/
< sign >::=
+|-
< left parenthesis >::=
(
< right parenthesis >::=
)

< constant >::=
1|2|3|4|5|6|7|8|9{0|1|2|3|4|5|6|7|8|9|.}
< variable >::=
A|B|C|D|E|F|G|H|I|J|K|L|M|N|O|P|Q|R|S|T|U|V|W|X|Y|Z|a|b|c|d|e|f|g|h|i|j|k|l|m|n|o|p|q|r|s|t|u|v|w|x|y|z|_
{0|1|2|3|4|5|6|7|8|9|A|B|C|D|E|F|G|H|I|J|K|L|M|N|O|P|Q|R|S|T|U|V|W|X|Y|Z|a|b|c|d|e|f|g|h|i|j|k|l|m|n|o|p|
q|r|s|t|u|v|w|x|y|z|_ }

Problem 3

```
#include<iostream>
using namespace std;
int main()
{
    int N;
    cin>>N;
    int list[N]={0};
    for(int i=0;i<N;i++)
    cin>>list[i];
    for(int j=0;j<N;j++)
    {
            if(list[j]!=0)
            cout<<list[j]<<" ";
    }
    return 0;
}
```