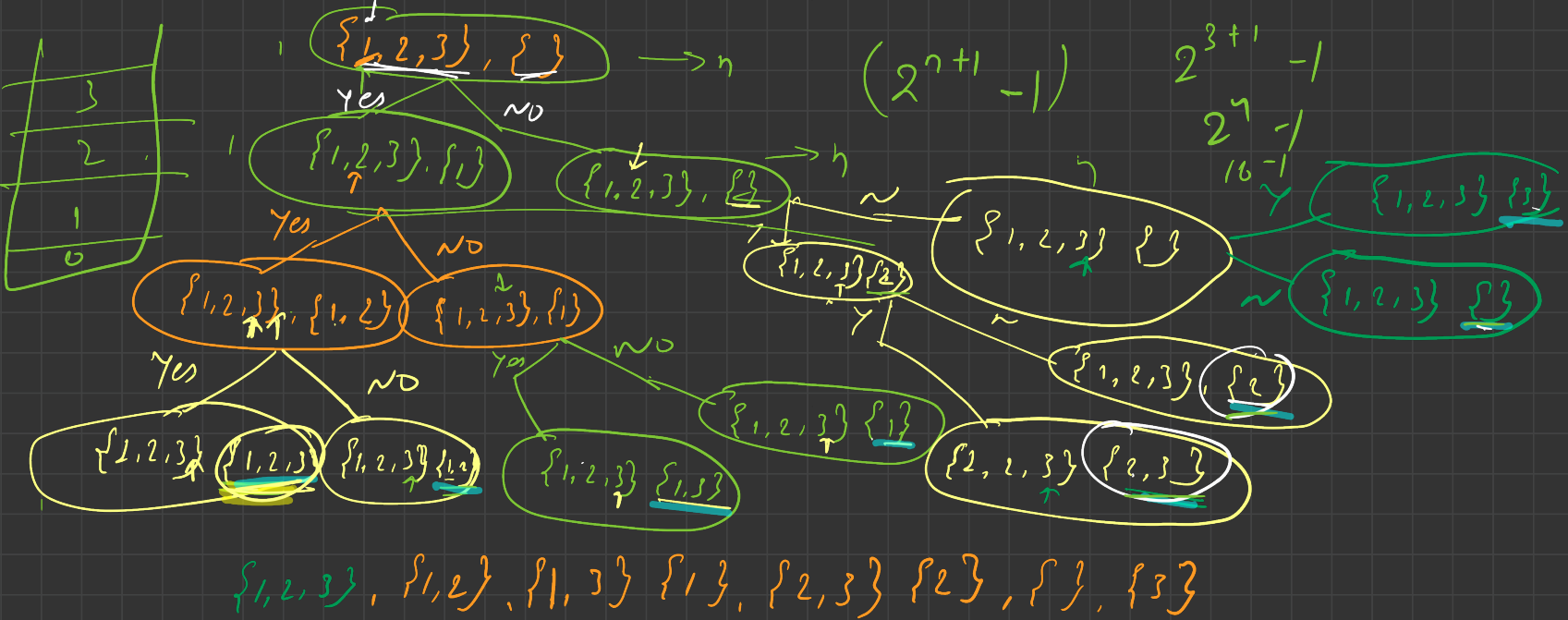


$$\begin{array}{|c|c|c|} \hline 1 & 2 & 3 \\ \hline \end{array}$$

10

[illegible]

Made with Goodnotes



Subseq (int arr[], int index, int n, vector (vector (int)) &ans, vector (int) temp) {

1 { if (index == n) {  
ans.push\_back(temp);  
return;  
}

1 - Subseq (arr, index+1, n, ans, temp);

1 - temp.push\_back(arr[index]);

1 - Subseq (arr, index+1, n, ans, temp);  
}

T.C  
 $O(2^n)$   
SC

int main() {

→ int arr[] = {1, 2, 3};

→ vector (vector (int)) ans;

→ vector (int) temp;

Subseq (arr, 0, n, ans, temp);

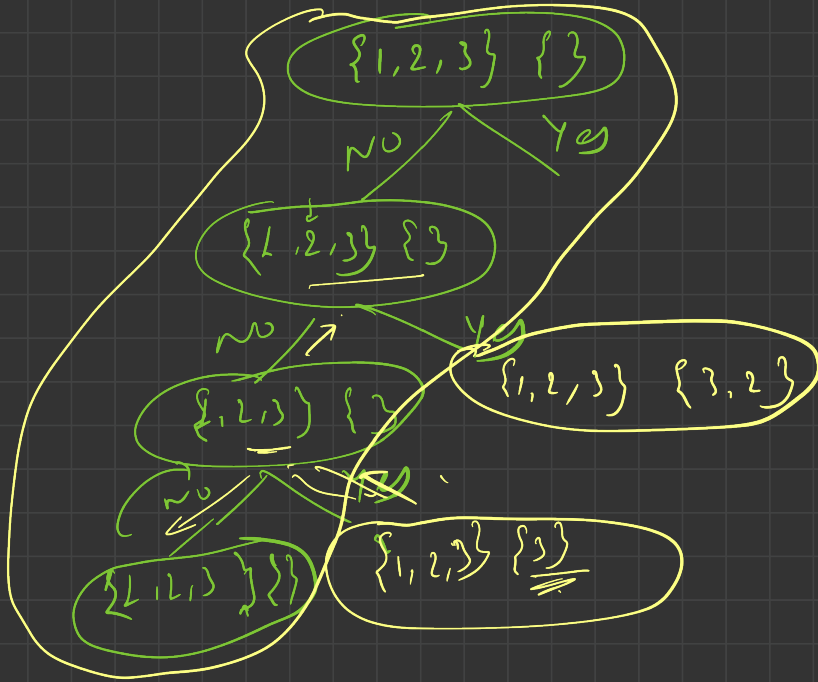
} // Print

index == n

$2^n \times n$

$O(\underline{2^n \times n} + n^2)$

$O(n \times 2^n)$



$$O(n^2)$$

$$O(n)$$

{3}

{3}

{}

{a}

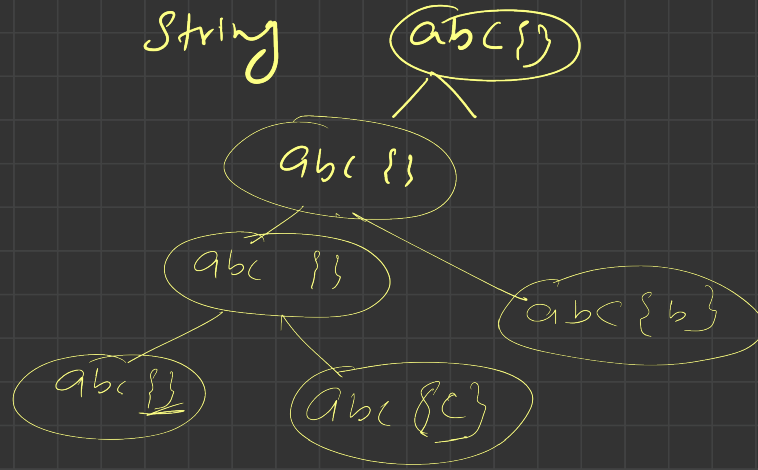
{b}

{c}

{a, b}

{a, c}

{a, b, c}



# Generate Parentheses

$n = 2$

$()(), (())$

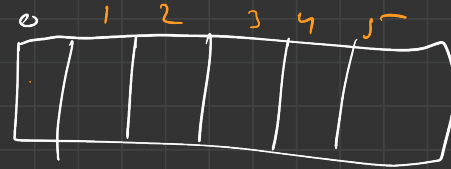
$n = 3$

$()()(), (())(), ((())), (())(), ((()))$   
 $\begin{matrix} \uparrow & \uparrow & \uparrow & \uparrow & \uparrow \\ L+2 & R & L+2 & R & L+2 \\ R+2 & & R+2 & & R+2 \end{matrix}$

$L = R$   
 $R > L$   
 $\times$

Left  $-( )$  - Right

$L = R$   
 $11$   
 $2$   
 $3$



no. of open Br  $\geq$  no. of close

$()()$   
 $1+2$   
 $\times$

RDLX



```
void Para (int n, int L, int R,
           vector<string> & ans, string temp) {
    if (L + R == 2 * n) {
        ans.push_back(temp);
        return;
    }
```

```
    if (left(n)) {
        temp.push_back('c');
        Para(n, L + 1, R, ans, temp);
        temp.pop_back();
    }
```

```
    if (R < L) {
        temp.push_back(')');
        Para(n, L, R + 1, ans, temp);
        temp.pop_back();
    }
```













