

Subsequence in C++

```
#include <iostream>
#include <string>

using namespace std;

void sol(string q, string a) {
    if (q.length() == 0) {
        cout << a << "-" << endl;
        return;
    }

    char ch = q[0];
    string rest = q.substr(1);
    sol(rest, a);
    sol(rest, a + ch);
}

int main() {
    string s = "abc";
    sol(s, "");

    return 0;
}
```

Execution Tree:

We'll denote:

- q = remaining string
- a = answer so far

Call #	q	a	Output if base case
1	abc	""	
2	bc	""	
3	c	""	
4	""	""	-
5	""	"c"	c-
6	bc	"b"	
7	c	"b"	
8	""	"b"	b-
9	""	"bc"	bc-
10	abc	"a"	
11	bc	"a"	
12	c	"a"	
13	""	"a"	a-
14	""	"ac"	ac-
15	bc	"ab"	
16	c	"ab"	
17	""	"ab"	ab-
18	""	"abc"	abc-

✔ Final Output (Subsequences with -):

-
c-
b-
bc-
a-
ac-
ab-
abc-

Output:-

-
c-
b-
bc-
a-
ac-
ab-
abc-