Different ways to add paranthesis

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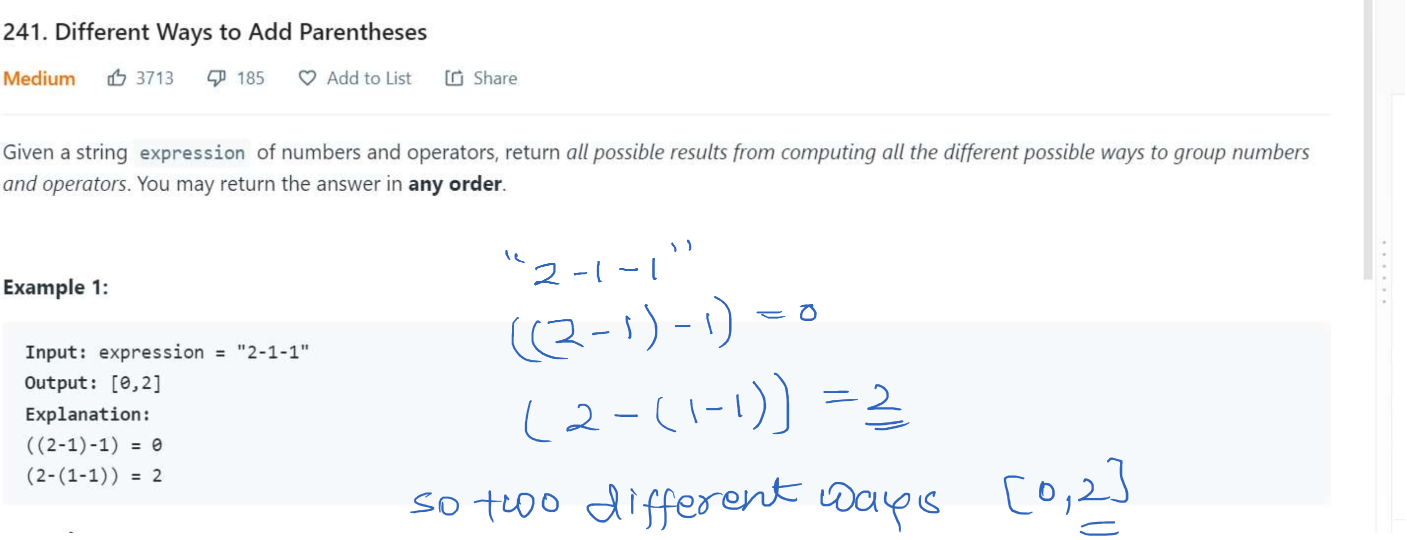


241. Different Ways to Add Parentheses

Medium 3713 185 Add to List Share

Given a string `expression` of numbers and operators, return *all possible results from computing all the different possible ways to group numbers and operators*. You may return the answer in **any order**.

Example 1:

```
Input: expression = "2-1-1"
Output: [0,2]
Explanation:
((2-1)-1) = 0
(2-(1-1)) = 2
```

"2-1-1"

((2-1)-1) = 0

(2-(1-1)) = 2

so two different ways [0,2]

S = 2*3-4*5

(i) (2*(3-(4*5))) = -34

(ii) ((2*3)-(4*5)) = -14

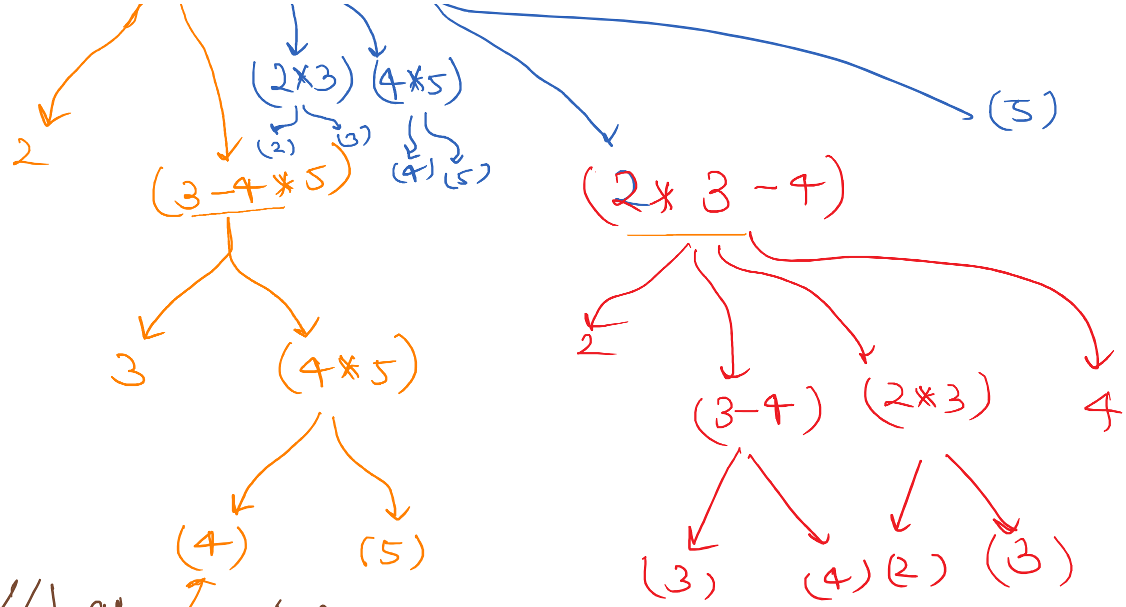
(iii) (2*(3-4)*5)) = -10 → (2*((3-4)*5)) = -10

(iv) ((2*3-4)*5) = 10

(v) ((~~2*3)-4)*5~~) =

So total no. of ways = 5

Approach :-



//base case —

if ans is empty that, means a string only contains a number an no not operator so just convert that number & push to the ans ↳ ans.push_back(stoi(s.substr(start, end - start+1))

```
vector<int> rec(string s, start, end)
{
        2*3-4*5
for(i=start; end).      if(ch=='*' || + || -)
char ch = s[i]
```

→ means operator.

↳ 2*3-4*5 if operator then create two parts like

```
① vector<int> leftVal(s, start, i-1);
vector<int> rightVal(s, i+1, end);
```

// for each value leftval do the operation on rightVal—

```
for(auto lval: leftval)
      for(auto rval: rightVal)
```

```
{ int temp;
    if ( ch == '*')
           temp = lval * r.val)
else if → +   ⟶  -
    }
ans. push_back (temp);
```