

05902:双端队列

```
def cs05902(t):  
    for i in range(t):  
        lt = []  
        for j in range(int(input())):  
            k1, k2 = map(int, input().split())  
            if k1 == 1:  
                lt.append(k2)  
            else:  
                lt.pop(-1 * k2)  
        if lt:  
            for j in lt[::-1]:  
                print(j, end=" ")  
            print(lt[-1])  
        else:  
            print("NULL")
```

#44270137提交状态

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状态: [Accepted](#)

源代码

```
def cs05902(t):  
    for i in range(t):  
        lt = []  
        for j in range(int(input())):  
            k1, k2 = map(int, input().split())  
            if k1 == 1:  
                lt.append(k2)  
            else:  
                lt.pop(-1 * k2)  
        if lt:  
            for j in lt[::-1]:  
                print(j, end=" ")  
            print(lt[-1])  
        else:  
            print("NULL")  
  
cs05902(int(input()))
```

基本信息

#: 44270137
题目: 05902
提交人: 22n2200011358
内存: 3692kB
时间: 40ms
语言: Python3
提交时间: 2024-03-17 16:21:02

02694:波兰表达式

```
def cs02694(s):  
    s.reverse()  
    lt = []  
    for i in s:  
        if i in ("+", "-", "*", "/"):  
            tmp = eval(str(lt.pop()) + i + str(lt.pop()))  
            lt.append(tmp)  
        else:  
            lt.append(i)  
    print(f'{lt[0]:.6f}')
```

#44271821提交状态

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状态: **Accepted**

源代码

```
def cs02694(s):  
    s.reverse()  
    lt = []  
    for i in s:  
        if i in ("+", "-", "*", "/"):  
            tmp = eval(str(lt.pop()) + i + str(lt.pop()))  
            lt.append(tmp)  
        else:  
            lt.append(i)  
    print(f'{lt[0]:.6f}')  
  
cs02694(input().split())
```

基本信息

#: 44271821
题目: 02694
提交人: 22n2200011358
内存: 25124kB
时间: 95ms
语言: PyPy3
提交时间: 2024-03-17 17:05:37

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24591:中序表达式转后序表达式

```
def cs24591(n):  
    for i in range(n):  
        s = input()  
        tmp = ""
```

```
lt, ans = [], []
```

```
for j in range(len(s)):
```

```
    if s[j] in ("+", "-", "*", "/", ")", "("):
```

```
        if tmp:
```

```
            ans.append(tmp)
```

```
            tmp = ""
```

```
        else:
```

```
            tmp += s[j]
```

```
        if s[j] == "(":
```

```
            lt.append(s[j])
```

```
        elif s[j] in ("+", "-", "*", "/"):
```

```
            while lt and not (s[j] in ("*", "/") and
```

```
lt[-1] in ("+", "-") or lt[-1] == "("):
```

```
                ans.append(lt.pop())
```

```
            lt.append(s[j])
```

```
        elif s[j] == ")":
```

```
            a = lt.pop()
```

```
            while a != "(":
```

```
                ans.append(a)
```

```
            a = lt.pop()
```

```
    if ans:
```

```
        for j in ans[::-1]:
```

```
print(j, end=" ")
```

```
if lt:
```

```
print(ans[-1], end=" ")
```

```
if tmp:
```

```
print(tmp, end=" ")
```

```
while len(lt) > 1:
```

```
print(lt.pop(), end=" ")
```

```
print(lt[0])
```

```
elif tmp:
```

```
print(ans[-1], tmp)
```

```
else:
```

```
print(ans[-1])
```

```
else:
```

```
print(tmp)
```

#44279244提交状态

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状态: Accepted

源代码

```
def cs24591(n):
    for i in range(n):
        s = input()
        tmp = ""
        lt, ans = [], []
        for j in range(len(s)):
            if s[j] in ("+", "-", "*", "/", "("):
                if tmp:
                    ans.append(tmp)
                    tmp = ""
                else:
                    tmp += s[j]
            if s[j] == "(":
                lt.append(s[j])
            elif s[j] in ("+", "-", "*", "/"):
                while lt and not (s[j] in ("*", "/") and lt[-1] in ("+", "-")):
                    ans.append(lt.pop())
                lt.append(s[j])
            elif s[j] == ")":
                a = lt.pop()
                while a != "(":
                    ans.append(a)
                    a = lt.pop()
        if ans:
            for j in ans[::-1]:
                print(j, end=" ")
        if lt:
            print(ans[-1], end=" ")
            if tmp:
                print(tmp, end=" ")
            while len(lt) > 1:
                print(lt.pop(), end=" ")
```

基本信息

#: 44279244
题目: 24591
提交人: 22n2200011358
内存: 3740kB
时间: 30ms
语言: Python3
提交时间: 2024-03-17 21:25:15

22068:合法出栈序列

```
def cs22068(x):  
    try:  
        while True:  
            l = len(x)  
            st = []  
            it = input()  
            if l != len(it):  
                print("NO")  
            else:  
                j, k = 0, 0  
                for i in range(l * 2):  
                    if st == [] or st[-1] != it[j]:  
                        if k > l - 1:  
                            st = True  
                            break  
                        st.append(x[k])  
                        k += 1  
                    else:  
                        st.pop()  
                        j += 1  
                    if j > l - 1:
```

```
break
```

```
if st:
```

```
print("NO")
```

```
else:
```

```
print("YES")
```

```
except:
```

```
exit()
```

#44281513提交状态

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状态: [Accepted](#)

源代码

```
def cs22068(x):
    try:
        while True:
            l = len(x)
            st = []
            it = input()
            if l != len(it):
                print("NO")
            else:
                j, k = 0, 0
                for i in range(l * 2):
                    if st == [] or st[-1] != it[j]:
                        if k > l-1:
                            st = True
                            break
                        st.append(x[k])
                        k += 1
                    else:
                        st.pop()
                        j += 1
                        if j > l-1:
                            break
                if st:
                    print("NO")
                else:
                    print("YES")
    except:
        exit()

cs22068(input())
```

基本信息

#: 44281513
题目: 22068
提交人: 22n2200011358
内存: 3604kB
时间: 25ms
语言: Python3
提交时间: 2024-03-18 00:06:37

06646:二叉树的深度

```
def cs06646(n):
```

```
def k(ni):
```

```
l = lst[ni][0] - 1
```

```
if l > -1:
```

```
ans[l] = ans[ni] + 1
```

```
k(l)
```

```
r = lst[ni][1] - 1
```

```
if r > -1:
```

```
ans[r] = ans[ni] + 1
```

```
k(r)
```

```
lst = []
```

```
ans = [0] * n
```

```
for i in range(n):
```

```
lst.append(tuple(map(int, input().split())))
```

```
k(0)
```

```
print(max(ans) + 1)
```

#44298381提交状态

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状态: **Accepted**

源代码

```
def cs06646(n):
    def k(ni):
        l = lst[ni][0]-1
        if l > -1:
            ans[l] = ans[ni] + 1
            k(l)
        r = lst[ni][1]-1
        if r > -1:
            ans[r] = ans[ni] + 1
            k(r)

    lst = []
    ans = [0]*n
    for i in range(n):
        lst.append(tuple(map(int, input().split())))
    k(0)
    print(max(ans)+1)

cs06646(int(input()))
```

基本信息

#: 44298381
题目: 06646
提交人: 22n2200011358
内存: 3624kB
时间: 22ms
语言: Python3
提交时间: 2024-03-19 15:43:48

02299:Ultra-QuickSort

```
def cs02299():  
    def merge_sort(a):  
        if len(a) == 1:  
            return a, 0  
        else:  
            l = len(a) // 2  
            rt, ans = [], 0  
            left, la = merge_sort(a[:l])  
            right, ra = merge_sort(a[l:])  
            ans += la + ra  
            left.reverse()  
            right.reverse()  
            for il in range(l):  
                while right and left[-1] > right[-1]:  
                    rt.append(right.pop())  
                ans += len(left)  
            else:  
                rt.append(left.pop())  
            for il in range(len(right)):  
                rt.append(right.pop())  
            return rt, ans
```



```
while True:
```

```
    n = int(input())
```

```
    lt = []
```

```
    if n:
```

```
        for i in range(n):
```

```
            lt.append(int(input()))
```

```
        print(merge_sort(lt)[1])
```

```
    else:
```

```
        break
```

状态: Accepted

源代码

```
def cs02299():
    def merge_sort(a):
        if len(a) == 1:
            return a, 0
        else:
            l = len(a) // 2
            rt, ans = [], 0
            left, la = merge_sort(a[:l])
            right, ra = merge_sort(a[l:])
            ans += la + ra
            left.reverse()
            right.reverse()
            for il in range(l):
                while right and left[-1] > right[-1]:
                    rt.append(right.pop())
                    ans += len(left)
                else:
                    rt.append(left.pop())
            for il in range(len(right)):
                rt.append(right.pop())
            return rt, ans

    while True:
        n = int(input())
        lt = []
        if n:
            for i in range(n):
                lt.append(int(input()))
            print(merge_sort(lt)[1])
        else:
            break
```

cs02299()

基本信息

#: 44282632
题目: 02299
提交人: 22n2200011358
内存: 34576kB
时间: 3089ms
语言: Python3
提交时间: 2024-03-18 09:43:06

总结：难度明显提升，归并排序和合法出栈是看了题解思路才会写，程序长了 BUG 也多；在做的过程中学了 eval 等内置函数，学了归并排序算法，递归是用得越来越熟了。