

1. 题目

sy119: 汉诺塔

recursion, <https://sunnywhy.com/sfbj/4/3/119>

思路:

代码:

```
def hn(n,x,y,z):
```

```
    global l,ct
```

```
    if n==1:
```

```
        l.append(x+'->'+z)
```

```
        ct+=1
```

```
    else:
```

```
        hn(n-1,x,z,y)
```

```
        hn(1,x,y,z)
```

```
        hn(n-1,y,x,z)
```

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

```
l=[]
```

```
ct=0
```

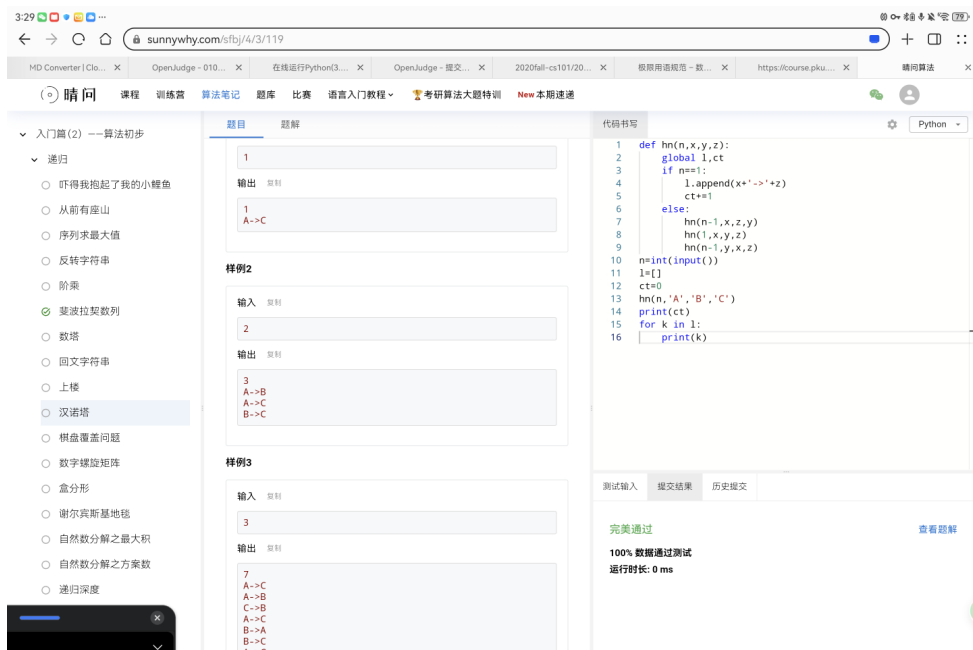
```
hn(n,'A','B','C')
```

```
print(ct)
```

```
for k in l:
```

```
    print(k)
```

代码运行截图 （至少包含有"Accepted"）



sy132: 全排列 I
recursion, <https://sunnywhy.com/sfbj/4/3/132>

思路:

代码:

def pl(l,s):

if len(l)==1:

s+=' '+l[0]

print(s[1:])

else:

for i in range(len(l)):

newl=[]

for j in range(len(l)):

if j!=i:

newl.append(l[j])

pl(newl,s+' '+l[i])

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

```
l=[str(k) for k in range(1,1+n)]
```

```
pl(l,"")
```

代码运行截图 == (至少包含有"Accepted") ==



02945: 拦截导弹

dp, <http://cs101.openjudge.cn/2024fallroutine/02945>

思路:

代码:

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

```
l=list(map(int,input().split()))
```

```
mi=max(l)
```

```
ma=0
```

```
def ljs(l,mi,ct):
```

```
    global ma
```

```
    if len(l)==1:
```

```
        if l[0]<=mi:
```

```
            ct+=1
```

```
            ma=max(ma,ct)
```

```
    else:
```

```

        if l[0]<=mi:
            ljs(l[1:],l[0],ct+1)
            ljs(l[1:],mi,ct)
        else:
            ljs(l[1:],mi,ct)

ljs(l,mi,0)
print(ma)

```

代码运行截图 （至少包含有"Accepted"）



23421: 小偷背包

dp, <http://cs101.openjudge.cn/practice/23421>

思路:

代码:

```

n,rl=map(int,input().split())
b=list(map(int,input().split()))
a=list(map(int,input().split()))
maxvalue=0
def jz(i,rl,value):
    global maxvalue
    if i==n-1:
        if a[i]<=rl:
            value+=b[i]
            maxvalue=max(maxvalue,value)
    else:
        if a[i]<=rl:
            jz(i+1,rl-a[i],value+b[i])
        jz(i+1,rl,value)

```

```
jz(0,r1,0)
print(maxvalue)
```

代码运行截图（至少包含有"Accepted"）



02754: 八皇后

dfs and similar, <http://cs101.openjudge.cn/practice/02754>

思路:

代码:

```
def bhh(lin,i,lout):
    global l
    if len(lout)==0:
        s=""
        for k in lin:
            s+=str(k)
        l.append(s)
    else:
        lnot=[]
        for j in range(len(lin)):
            lnot.append(lin[j]+j+1-i)
            lnot.append(lin[j]+i-j-1)
        for p in lout:
            if p not in lnot:
                newlout=[]
                for q in lout:
                    if q!=p:
                        newlout.append(q)
```

```

        bhh(lin+[p],i+1,newlout)

l=[]
lout=[k for k in range(1,9)]
lin=[]
bhh(lin,1,lout)
l.sort()
n=int(input())
for j in range(n):
    p=int(input())
    print(l[p-1])

```

代码运行截图 （至少包含有"Accepted"）



189A. Cut Ribbon

brute force, dp 1300 <https://codeforces.com/problemset/problem/189/A>

思路：

代码：

```

l=list(map(int,input().split()))
n=l[0]
a,b,c=l[1],l[2],l[3]
rope=[0]*(3*n)
for i in range(1,4):
    if l[i]<n+2:
        rope[l[i]]=1
for i in range(n+1):
    if rope[i]!=0:

```

```

for k in range(1,4):
    if i+l[k]<n+2:
        rope[i+l[k]]=max(1+rope[i],rope[i+l[k]])
print(rope[n])

```

代码运行截图 （至少包含有"Accepted"）

#	When	Who	Problem	Lang	Verdict	Time	Memory
289295294	Nov/01/2024 14:15 ^{ms}	XZKZXK	189A - Cut Ribbon	Python 3	Accepted	77 ms	0 KB
289295026	Nov/01/2024 14:12 ^{ms}	XZKZXK	189A - Cut Ribbon	Python 3	Wrong answer on test 10	77 ms	0 KB
289294861	Nov/01/2024 14:11 ^{ms}	XZKZXK	189A - Cut Ribbon	Python 3	Wrong answer on test 10	77 ms	0 KB
289294621	Nov/01/2024 14:08 ^{ms}	XZKZXK	189A - Cut Ribbon	Python 3	Runtime error on test 13	93 ms	0 KB
289294261	Nov/01/2024 14:04 ^{ms}	XZKZXK	189A - Cut Ribbon	Python 3	Runtime error on test 1	46 ms	0 KB
288696630	Oct/29/2024 16:32 ^{ms}	XZKZXK	189A - Cut Ribbon	Python 3	Runtime error on test 5	62 ms	500 KB
288695800	Oct/29/2024 16:48 ^{ms}	XZKZXK	189A - Cut Ribbon	Python 3	Wrong answer on test 2	62 ms	0 KB
287329812	Oct/22/2024 17:00 ^{ms}	XZKZXK	545C - Woodcutters	Python 3	Accepted	405 ms	19100 KB
287329604	Oct/22/2024 16:59 ^{ms}	XZKZXK	545C - Woodcutters	Python 3	Wrong answer on test 9	343 ms	18900 KB
286019323	Oct/15/2024 17:18 ^{ms}	XZKZXK	230B - T-strings	Python 3	Accepted	1812 ms	14900 KB
286016566	Oct/15/2024 16:56 ^{ms}	XZKZXK	230B - T-strings	Python 3	Time limit exceeded on test 36	2000 ms	13100 KB
286016601	Oct/15/2024 16:55 ^{ms}	XZKZXK	230B - T-strings	Python 3	Wrong answer on test 3	124 ms	0 KB
286016122	Oct/15/2024 16:52 ^{ms}	XZKZXK	230B - T-strings	Python 3	Compilation error	0 ms	0 KB
286016333	Oct/15/2024 16:54 ^{ms}	XZKZXK	158B - Taxi	Python 3	Accepted	218 ms	3300 KB
286013981	Oct/15/2024 16:33 ^{ms}	XZKZXK	158B - Taxi	Python 3	Wrong answer on test 8	124 ms	0 KB
286013676	Oct/15/2024 16:30 ^{ms}	XZKZXK	158B - Taxi	Python 3	Wrong answer on test 1	122 ms	0 KB
286012558	Oct/15/2024 16:30 ^{ms}	XZKZXK	1879B - Chips on the Board	Python 3	Accepted	468 ms	49100 KB
286011876	Oct/15/2024 16:12 ^{ms}	XZKZXK	1879B - Chips on the Board	Python 3	Wrong answer on test 1	46 ms	0 KB

2. 学习总结和收获

感觉 dp 加入后题目难度上升较大，难的题需要想很久才有思路。主要是有些 dp 代码中需要进行数学证明，保证算法正确性。还需多练，尽量做到见题就有大致思路。每日选做里有意思的题多了，想到思路会有一种豁然开朗的感觉，还蛮有成就感的。

如果作业题目简单，有否额外练习题目，比如：OJ“计概 2024fall 每日选做”、CF、LeetCode、洛谷等网站题目。

日常跟进 OJ 每日选做