

## 第五次作业

### 04148: 生理周期

比赛	题目	结果	内存	时间	代码长度	语言	提交时间
 题库 (包括计概、数算题目)	04148: 生理周期	Accepted	3640kB	34ms	361 B	Python3	11小时前


```
num = 1
while True:
    p, e, i, d = map(int, input().split())
    if [p, e, i, d] == [-1, -1, -1, -1]:
        break

    final_day=d+1

    while (final_day - p) % 23 != 0 or (final_day - e) % 28 != 0 or (final_day - i) % 33 != 0:
        final_day += 1

    final_day-=d
    print(f'Case {num}: the next triple peak occurs in {final_day} days.')
    num += 1
```

### 18211: 军备竞赛

 题库 (包括计概、数算题目)	18211: 军备竞赛 (greedy, two pointers) v0.2	Accepted	3664kB	24ms	715 B	Python3	11小时前
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```
p=int(input())
numbers=list(map(int,input().split()))
numbers.sort()
if numbers[0]>p:
    print('0')
else:
    our_weapons=0
    enemy=0
    n=len(numbers)
    for i in range(len(numbers)):
        if our_weapons>=enemy and n>0:
            if n>1 and numbers[i]<=p:
                our_weapons+=1
                p-=numbers[i]
                n-=1
            elif n>1 and numbers[i]>p:
                p+=(numbers[len(numbers)-1-enemy]-numbers[i])
                enemy += 1
```

```

        our_weapons+=1
        n-=2
    elif numbers[i]<=p:
        our_weapons+=1
        n-=1
    else:
        break
else:
    break
print(our_weapons-enemy)

```

## 21554:排队做实验 (greedy)v0.2

比赛	题目	结果	内存	时间	代码长度	语言	提交时间
 题库 (包括计概、数算题目)	21554: 排队做实验 (greedy)v0.2	Accepted	3672kB	24ms	476 B	Python3	4分钟前

```

n=int(input())
T=list(map(int,input().split()))
T_sorted=sorted(T)
indexed_T = [(value, index) for index, value in enumerate(T)]
sorted_indexed_T = sorted(indexed_T, key=lambda x: (x[0], x[1]))
new_list=[item[1] for item in sorted_indexed_T]

for j in range(n):
    new_list[j]+=1
print(" ".join(map(str,new_list)))
box=[]
time=0
for i in range(n-1):
    time+=T_sorted[i]
    box.append(time)

print('%.2f'%float(sum(box)/n))

```

## 01008: Maya Calendar

比赛	题目	结果	内存	时间	代码长度	语言	提交时间
 题库 (包括计概、数算题目)	01008: Maya Calendar	Accepted	3684kB	29ms	704 B	Python3	1分钟前

```

year_1={'pop':0, 'no':1, 'zip':2, 'zotz':3, 'tzec':4, 'xul':5, 'yoxkin':6, 'mol':7, 'chen':8, 'yax':9,
        'zac':10, 'ceh':11, 'mac':12, 'kankin':13, 'muan':14, 'pax':15, 'koyab':16,
        'cumhu':17, 'uayet':18}

```

```

year_2={0:'imix',1:'ik',2: 'akbal',3: 'kan',4: 'chicchan',5: 'cimi',6: 'manik',7: 'lamat',8: 'muluk',9:'ok',
        10: 'chuen',11: 'eb',12: 'ben',13: 'ix',14: 'mem',15:'cib',16: 'caban',17: 'eznab',18:
'canac',19: 'ahau'}
n=int(input())
print(n)
for _ in range(n):
    day,month,year=input().split()
    day_2=day.rstrip('.')
    days=(year_1[month])*20+int(day_2)+int(year)*365
    month_2=year_2[days%20]
    holly_year=days//260
    day_3=(days%260)%13+1
    print(day_3,month_2,holly_year)

```

#### 545C. Woodcutters

#	When	Who	Problem	Lang	Verdict	Time	Memory
<a href="#">288251668</a>	Oct/27/2024 09:16 <sup>UTC</sup>	liquoriceliquorice	<a href="#">C - Woodcutters</a>	Python 3	Accepted	405 ms	18600 KB


```

import sys
#Woodcutters can fell a tree if the segment to be occupied by the fallen tree doesn't contain any
occupied point.!!
ranges=[]
n=int(input())
for _ in range(n):
    a,h=map(int,input().split())
    ranges.append((a-h,a,a+h))
ranges.sort(key=lambda x:x[1])
l=-sys.maxsize
num=0
for i in range(len(ranges)):
    left,right=ranges[i][0],ranges[i][2]
    if l<left:
        l=(left+right)/2
        num+=1
    elif left<=l<(left+right)/2:
        l=right
        num+=1
    if i+1<len(ranges):
        next_left,next_right=ranges[i+1][0],ranges[i+1][2]
        if l>=(next_left+next_right)/2:
            num-=1
            l=(left+right)/2
print(num)

```

## 01328: Radar Installation

(这个是看了答案理清了它的思路后自己做的...确实不太会，但是学会了如何处理输入空行)

比赛	题目	结果	内存	时间	代码长度	语言	提交时间
 题库 (包括计概、数	01328: Radar Installation	Accepted	3916kB	46ms	738 B	Python3	刚刚

```
import math
```

```
def radar(n,d,islands):
```

```
    if d<0:
```

```
        return -1
```

```
    ranges=[]
```

```
    for x,y in islands:
```

```
        if y>d:
```

```
            return -1
```

```
        else:
```

```
            delta=math.sqrt(d*d-y*y)
```

```
            ranges.append((x-delta,x+delta))
```

```
    if not range:
```

```
        return -1
```

```
    ranges.sort(key=lambda x:x[1])
```

```
    numbers=1
```

```
    r=ranges[0][1]
```

```
    for left,right in ranges[1:]:
```

```
        if r<left:
```

```
            r=right
```

```
            numbers+=1
```

```
    return numbers
```

```
num=0
```

```
while True:
```

```
    n,d=map(int,input().split())
```

```
    if [n,d]==[0,0]:
```

```
        break
```

```
    num+=1
```

```
    islands=[]
```

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

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

```
    result=radar(n,d,islands)
```

```
    print(f'Case {num}: {result}')
```

`input()`

学习感悟：感觉本周的 `python` 作业难了许多，有一些题是先看了答案理解了它的思路之后才自己做的。唉...不过能够自己应用课上讲的区间相关知识还是感觉不错。并且再次意识到数学思维比 `python` 技巧更重要...最近因为期中相关的事情太多了所以没有怎么做每日选做，不知道什么时候能补上...