1. 生理周期

思路：中国剩余定理

代码：

```
import math
m=1
while True:
    a,b,c,d=map(int,input().split())
    if a==-1:
        break
    day=(a*28*33*6+b*23*33*19+c*23*28*2)%21252
    day+=math.ceil((d-day+1)/21252)*21252
    print('Case '+str(m)+': the next triple peak
occurs in '+str(day-d)+' days.')
    m+=1
```

运行：

2. 军备竞赛

思路：优先做小的，卖大的

代码：

```python
p=int(input())
cost=list(map(int,input().split()))
cost=sorted(cost)
head=0
tail=len(cost)-1
delta=0
maxi=0
while head<=tail:
    while head<=tail and p>=cost[head]:
        p-=cost[head]
        head+=1
        delta+=1
    if delta==0:
        break
    maxi=max(maxi,delta)
    if tail>=head:
        p+=cost[tail]
        tail-=1
        delta-=1
print(maxi)
```

运行：

3. 排队做实验

思路：时间短的安排在前面

代码：

```
n=int(input())
temp=list(map(int,input().split()))
a=0
time=[[temp[i],i+1] for i in range(n)]
time=sorted(time,key=lambda x:x[0])
for i in range(n):
    a+=(n-1-i)*time[i][0]
a=round(a/n,2)
seq=str(time[0][1])
for i in range(1,n):
    seq+=' '+str(time[i][1])
print(seq,end='\n')
print('%.2f'%a)
```

运行：

4. Maya Calendar

思路：注意边界上的月份和年份

代码：

```
n=int(input())
dict1={'pop':1, 'no':2, 'zip':3, 'zotz':4,
'tzec':5, 'xul':6, 'yoxkin':7, 'mol':8, 'chen':9,
'yax':10, 'zac':11, 'ceh':12, 'mac':13,
'kankin':14, 'muan':15, 'pax':16, 'koyab':17,
'cumhu':18,'uayet':19}
dict2={1:'imix', 2:'ik', 3:'akbal', 4:'kan',
5:'chicchan', 6:'cimi', 7:'manik', 8:'lamat',
9:'muluk', 10:'ok', 11:'chuen', 12:'eb', 13:'ben',
14:'ix', 15:'mem', 16:'cib', 17:'caban',
18:'eznab', 19:'canac', 20:'ahau'}
print(n)
for i in range(n):
    day,month,year=input().split()
    day=int(day[0:len(day)-1])+1
    month=dict1[month]
    year=int(year)
    num=year*365+(month-1)*20+day
    year=(num-1)//260
    month=dict2[((num-1)%260)%20+1]
    day=((num-1)%260)%13+1
    print(str(day)+' '+month+' '+str(year))
```

运行：

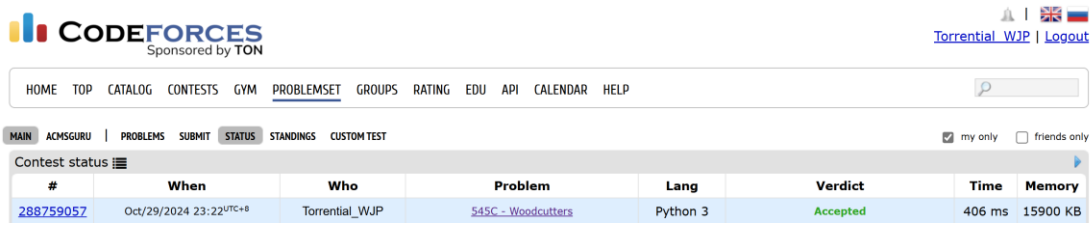
5. Woodcutters

思路：从左到右遍历，不能往左就往右

代码：

```
n=int(input())
data=[[0,0] for _ in range(n)]
for i in range(n):
    data[i][0],data[i][1]=map(int,input().split())
num=2
for j in range(1,n-1):
    if data[j][0]-data[j-1][0]>data[j][1]:
        num+=1
    elif data[j+1][0]-data[j][0]>data[j][1]:
        num+=1
        data[j][0]+=data[j][1]
if n==1:
    num=1
print(num)
```

运行：



6. Radar Installation

思路：求出每个能照到岛的区间，排序后操作

代码：

```
import math
def solve(n,d,islands):
    if d <= 0:
        return -1

    ranges = []
    for x, y in islands:
        if y > d:
            return -1
        ranges.append((x -math.sqrt(d**2- y**2) , x
+math.sqrt(d**2 - y**2)  ))
    ranges.sort(key=lambda x: x[1])
    number = 1
    m = ranges[0][1]
    for start, end in ranges[1:]:
        if m < start:
            m = end
            number += 1

    return number

num=1
while True:
    n,d=map(int, input().split())
    if n==0 and d==0:
        break
    islands =[[0,0] for _ in range(n)]
    for _ in range(n):
        islands[_][0],islands[_][1]=map(int,
```

```
input().split())

    result = solve(n, d, islands)
    print('Case '+str(num)+': '+str(result))
    num+=1
    input()
```

运行：

总结和收获：

1.感到难度有增加，一些 greedy 策略变得不是那么显然

2.由于最近复习期中考在算法学习上有懈怠，要抓紧补上