 # Assignment #4: T-primes + 贪心

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2024 fall, Complied by
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1. 题目

34B. Sale
greedy, sorting, 900,
https://codeforces.com/problemset/problem/34/B

思路
比较简单的排序和贪婪，可以接受

代码
```
N,M=map(int,input().split())
price=sorted(list(map(int,input().split())))
ef=[]
for _ in price:
    if _<0:
        ef.append(_)
x=sum(ef[0:M])
print(-x)
```

代码运行截图 <mark>（至少包含有"Accepted"）</mark>

General

#	Author	Problem	Lang	Verdict	Time	Memory
281816350	Practice: aglint	34B - 4	Python 3	Accepted	124 ms	28 KB

160A. Twins
greedy, sortings, 900,
https://codeforces.com/problemset/problem/160/A

思路：
比较简单，在临界条件有些小小的易错点

代码
```
n=int(input())
num=sorted(list(map(int,input().split())),reverse=True)
c=sum(num)
re=[]
```

```
for _ in num:
    if sum(re)<=(c/2):
        re.append(_)
print(len(re))
```

代码运行截图 ==（至少包含有"Accepted"）==

General

#	Author	Problem	Lang	Verdict	Time	Memory
281827371	Practice: aglint	160A - 20	Python 3	Accepted	124 ms	24 KB

1879B. Chips on the Board
constructive algorithms, greedy, 900,
https://codeforces.com/problemset/problem/1879/B

思路：
说真的，我觉得这道题挺难的，至少我在考场上大概率做不出来。这道题是完全在考思维，需要脑筋转得比较快。

代码
```
n=int(input())
for _ in range(n):
    square=int(input())
    row=list(map(int,input().strip().split()))
    line=list(map(int,input().strip().split()))
    a=sum(row)
    b=sum(line)
    c=a+min(line)*square
    d=b+min(row)*square
    print(min(c,d))
```

代码运行截图 <mark>（至少包含有"Accepted"）</mark>

#	Author	Problem	Lang	Verdict	Time	Memory
281834756	Practice: aglint	1879B - 10	Python 3	Accepted	281 ms	50232 KB

158B. Taxi
*special problem, greedy, implementation, 1100,
https://codeforces.com/problemset/problem/158/B

思路：
两句话：真的不难！真的写不对！

代码
```
import math
n=int(input())
l=sorted(list(map(int,input().split())))
count_dict={i:0 for i in range(5)}
c=0
for num in l:
    count_dict[num]+=1
a=count_dict[4]
if count_dict[1]==count_dict[3]:
    a+=count_dict[3]
elif count_dict[1]>count_dict[3]:
    a+=count_dict[3]
    c=count_dict[1]-count_dict[3]
elif count_dict[1]<count_dict[3]:
    a+=count_dict[1]
    a+=count_dict[3]-count_dict[1]
if count_dict[2]%2==0:
    a+=count_dict[2]//2
    a+=math.ceil(c/4)
else:
    a+=count_dict[2]//2
    a+=1
    if c>2:
        a += math.ceil((c - 2) / 4)
```

代码运行截图 <mark>（至少包含有"Accepted"）</mark>

#	Author	Problem	Lang	Verdict	Time	Memory
286101217	Practice: aglint	158B - 10	Python 3	Accepted	218 ms	3340 KB

*230B. T-primes（选做）
binary search, implementation, math, number theory, 1300, http://codeforces.com/problemset/problem/230/B

思路：
这道题思路都会，就是如何优化。从题解挑了一个比较好理解的代码，很有收获。

代码
```
def euler_sieve(n):
```

```
    is_prime = [True] * (n + 1)
    is_prime[0] = is_prime[1] = False
    primes = []
    for i in range(2, n + 1):
        if is_prime[i]:
            primes.append(i)
        for p in primes:
            if i * p > n:
                break
            is_prime[i * p] = False
            if i % p == 0:
                break
    return is_prime
s = euler_sieve(1000000)

input()
for i in map(int, input().split()):
    sqrt_i = i ** 0.5
    if sqrt_i % 1 == 0 and s[int(sqrt_i)]:
        print('YES')
    else:
        print('NO')
```

代码运行截图 <mark>（至少包含有"Accepted"）</mark>

#	Author	Problem	Lang	Verdict	Time	Memory
284671356	Practice: aglint	230B - 28	Python 3	Accepted	1124 ms	18272 KB

*### *12559: 最大最小整数 （选做）*

greedy, strings, sortings,
http://cs101.openjudge.cn/practice/12559

思路：其实不难，关键是把位数化统一

代码

```
def find(n, numbers):
    num= list(map(str, numbers))
    max_num = ''.join(sorted(num, key=lambda x: x * 10,
reverse=True))
    min_num = ''.join(sorted(num, key=lambda x: x * 10))
    return max_num, min_num
n = int(input())
numbers = list(map(int, input().split()))
```

```
max_num, min_num = find(n, numbers)
print(max_num, min_num)
```

代码运行截图 <mark>（至少包含有"Accepted"）</mark>

状态：Accepted

源代码

```
def find(n, numbers):
    num= list(map(str, numbers))
    max_num = ''.join(sorted(num, key=lambda x: x * 10, reverse=True))
    min_num = ''.join(sorted(num, key=lambda x: x * 10))
    return max_num, min_num
n = int(input())
numbers = list(map(int, input().split()))
max_num, min_num = find(n, numbers)
print(max_num, min_num)
```

基本信息

#: 46591490
题目: 12559
提交人: beginner
内存: 3748kB
时间: 24ms
语言: Python3
提交时间: 2024-10-19 12:27:10

2. 学习总结和收获

最近在做 1100 左右难度的题目，大概涉及贪心、动态规划。真的感觉难度上来了，要么是思路很难想到、要么是写不对、要么是超时，在一堆每日选做里只能 AC 个别题目，看题解也是比较费力。按自己的节奏来，慢慢理解吧，能做多少是多少！