

Assignment #7: Nov Mock Exam立冬

Updated 1646 GMT+8 Nov 7, 2024

2024 fall, Compiled by 徐嘉期、地空

说明:

- 1) 月考: AC6 (请改为同学的通过数)。考试题目都在“题库 (包括计概、数算题目)”里面, 按照数字题号能找到, 可以重新提交。作业中提交自己最满意版本的代码和截图。
- 2) 请把每个题目解题思路 (可选), 源码Python, 或者C++ (已经在Codeforces/Openjudge上AC), 截图 (包含Accepted), 填写到下面作业模版中 (推荐使用 typora <https://typora.io.cn>, 或者用 word)。AC 或者没有AC, 都请标上每个题目大致花费时间。
- 3) 提交时候先提交pdf文件, 再把md或者doc文件上传到右侧“作业评论”。Canvas需要有同学清晰头像、提交文件有pdf、“作业评论”区有上传的md或者doc附件。
- 4) 如果不能在截止前提交作业, 请写明原因。

1. 题目

E07618: 病人排队

sortings, <http://cs101.openjudge.cn/practice/07618/>

思路:

代码:

```
n = int(input())
id_old=[]
age_old=[]
id_young=[]
for _ in range(n):
    temp = list(input().split())
    id1 = temp[0]
    age = int(temp[1])
    if age >= 60:
        check = True
        for i in range(len(age_old)):
            if age_old[i] < age:
                age_old = age_old[:i]+[age]+age_old[i:]
                id_old = id_old[:i]+[id1]+id_old[i:]
                check = False
                break
    if check:
        age_old.append(age)
        id_old.append(id1)
# print(age_old)
# print(id_old)
```

```

else:
    id_young.append(id1)
ans = id_old+id_young
for i in ans:
    print(i)

```

代码运行截图 (至少包含有"Accepted")

OpenJudge 题目ID, 标题, 描述 24n2400012440徐嘉期 信箱 账号

CS101 / 题库 (包括计概、数学题目)

题目 排名 状态 提问

#47026087提交状态 查看 提交 统计 提问

状态: Accepted

源代码

```

n = int(input())
id_old=[]
age_old=[]
id_young=[]
for _ in range(n):
    temp = list(input().split())
    id1 = temp[0]
    age = int(temp[1])
    if age >= 60:
        check = True
        for i in range(len(age_old)):
            if age_old[i] < age:
                age_old = age_old[:i]+[age]+age_old[i:]
                id_old = id_old[:i]+[id1]+id_old[i:]
                check = False
                break
        if check:
            age_old.append(age)
            id_old.append(id1)
            # print(age_old)
            # print(id_old)
    else:
        id_young.append(id1)
ans = id_old+id_young
for i in ans:
    print(i)

```

基本信息

#: 47026087
 题目: 07618
 提交人: 24n2400012440徐嘉期
 内存: 3656kB
 时间: 27ms
 语言: Python3
 提交时间: 2024-11-07 23:08:28

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E23555: 节省存储的矩阵乘法

implementation, matrices, <http://cs101.openjudge.cn/practice/23555/>

思路:

代码:

```

n,m1,m2 = map(int,input().split())
matrix1 = [[0]*n for _ in range(n)]
matrix2 = [[0]*n for _ in range(n)]
matrix3 = [[0]*n for _ in range(n)]
for _ in range(m1):
    x,y,v = map(int,input().split())
    matrix1[x][y]=v
for _ in range(m2):
    x,y,v = map(int,input().split())
    matrix2[x][y]=v
ans = []
for i in range(n):
    for j in range(n):
        for k in range(n):
            matrix3[i][j] += matrix1[i][k]*matrix2[k][j]
        if matrix3[i][j]:
            l1 = [str(i),str(j),str(matrix3[i][j])]

```

```
ans.append(' '.join(l1))
for i in ans:
    print(i)
```

代码运行截图 == (至少包含有"Accepted") ==

OpenJudge

题目ID, 标题, 描述

24n2400012440徐嘉期

信箱

账号



CS101 / 题库 (包括计概、数算题目)

题目

排名

状态

提问

#47026208提交状态

查看

提交

统计

提问

状态: Accepted

源代码

```
n,m1,m2 = map(int,input().split())
matrix1 = [[0]*n for i in range(m1)]
matrix2 = [[0]*n for i in range(m2)]
matrix3 = [[0]*n for i in range(n)]
for i in range(m1):
    x,y,v = map(int,input().split())
    matrix1[x][y]=v
for i in range(m2):
    x,y,v = map(int,input().split())
    matrix2[x][y]=v
ans = []
for i in range(n):
    for j in range(n):
        for k in range(n):
            matrix3[i][j] += matrix1[i][k]*matrix2[k][j]
        if matrix3[i][j]:
            ll = (str(i),str(j),str(matrix3[i][j]))
            ans.append(' '.join(ll))
for i in ans:
    print(i)
```

基本信息

#: 47026208

题目: 2355

提交人: 24n2400012440徐嘉期

内存: 3716kB

时间: 33ms

语言: Python3

提交时间: 2024-11-07 23:16:33

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English 帮助 关于

M18182: 打怪兽

implementation/sortings/data structures, <http://cs101.openjudge.cn/practice/18182/>

思路：

代码：

```
cases = int(input())
for _ in range(cases):
    n,m,b = map(int,input().split())
    dict1 = {}
    time = []
    for __ in range(n):
        t,x = map(int,input().split())
        if t in dict1:
            dict1[t].append(x)
        else:
            dict1[t] = [x]
            time.append(t)
    # print(dict1)
    # print(time)
    time.sort()
    check = False
    for i in time:
        if check:
            break
        dict1[i].sort(reverse=True)
```

```

length = min(m, len(dict1[i]))
for j in range(length):
    b -= dict1[i][j]
    if b <= 0:
        print(i)
        check = True
        break
if not check:
    print("alive")

```

代码运行截图 (至少包含有"Accepted")


CS101 / 题库 (包括计概、数算题目)

[题目](#)
[排名](#)
[状态](#)
[提问](#)

#47026373提交状态

查看 提交 统计 提问

状态: Accepted

源代码

```

cases = int(input())
for _ in range(cases):
    n, m, b = map(int, input().split())
    dict1 = {}
    time = []
    for _ in range(n):
        t, x = map(int, input().split())
        if t in dict1:
            dict1[t].append(x)
        else:
            dict1[t] = [x]
            time.append(t)
    # print(dict1)
    # print(time)
    time.sort()
    check = False
    for i in time:
        if check:
            break
        dict1[i].sort(reverse=True)
        length = min(m, len(dict1[i]))
        for j in range(length):
            b -= dict1[i][j]
            if b <= 0:
                print(i)
                check = True
                break
    if not check:
        print("alive")

```

基本信息

: 47026373
题目: 18182
提交人: 24n2400012440徐嘉期
内存: 3724kB
时间: 73ms
语言: Python3
提交时间: 2024-11-07 23:29:19

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English 帮助 关于

M28780: 零钱兑换3

dp, <http://cs101.openjudge.cn/practice/28780/>

思路:

代码:

```

n , amount = map(int, input().split())
dp = [float("inf")] * (amount + 1)
check = [False] * (amount + 1)
l1 = list(map(int, input().split()))
for i in l1 :
    if i <= amount:
        dp[i] = 1
for i in range(1, amount + 1):
    temp = dp[i]
    for j in l1:
        if i > j:
            temp = min(temp, dp[i - j] + 1)
    if temp != dp[i]:
        dp[i] = temp

```

```
check[i] = True
print(dp[amount] if check[amount] else "-1")
```

代码运行截图 (至少包含有"Accepted")

OpenJudge 题目ID, 标题, 描述 24n2400012440徐嘉期 信箱 账号

CS101 / 题库 (包括计概、数算题目)

题目 排名 状态 提问

#47026439提交状态

查看 提交 统计 提问

状态: Accepted

源代码

```
n, amount = map(int, input().split())
dp = [float("inf")] * (amount + 1)
check = [False] * (amount + 1)
l1 = list(map(int, input().split()))
for i in l1:
    if i <= amount:
        dp[i] = 1
for i in range(1, amount + 1):
    temp = dp[i]
    for j in l1:
        if i > j:
            temp = min(temp, dp[i - j] + 1)
    if temp != dp[i]:
        dp[i] = temp
        check[i] = True
print(dp[amount] if check[amount] else "-1")
```

基本信息

#: 47026439
题目: 28780
提交人: 24n2400012440徐嘉期
内存: 13604kB
时间: 15091ms
语言: Python3
提交时间: 2024-11-07 23:35:38

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T12757: 阿尔法星人翻译官

implementation, <http://cs101.openjudge.cn/practice/12757>

思路:

代码:

```
dict1= {'zero':0, 'one':1, 'two':2, 'three':3, 'four':4, 'five':5, 'six':6,
'seven':7, 'eight':8, 'nine':9, 'ten':10, 'eleven':11, 'twelve':12,
'thirteen':13, 'fourteen':14, 'fifteen':15, 'sixteen':16, 'seventeen':17,
'eighteen':18, 'nineteen':19, 'twenty':20, 'thirty':30, 'forty':40, 'fifty':50,
'sixty':60, 'seventy':70, 'eighty':80, 'ninety':90}
dict2={ 'hundred':100, "thousand":1000, "million":1000000}
l1 = list(input().split())
check = 1
k = 0
if l1[0] == 'negative':
    check = -1
    k = 1
temp = 0
curr = 0
ans = []
for i in range(k, len(l1)):
    if l1[i] in dict1:
        temp += dict1[l1[i]]
    else:
        if not curr:
            curr = dict2[l1[i]]
```



```

n = int(input())
start = []
end = []
for _ in range(n):
    x,y = map(int,input().split())
    if y <= 60:
        start.append(x)
        end.append(y)
start_sorted = [x for x,_ in sorted(zip(start,end),key=lambda pair:pair[1])]
end_sorted = sorted(end)
len1 = len(start)
total = 1
curr = end_sorted[0]
for i in range(1,len1):
    if start_sorted[i] > curr:total+=1;curr = end_sorted[i]
print(total)

```

代码运行截图 (至少包含有"Accepted")

OpenJudge
题目ID, 标题, 描述
24n2400012440徐嘉期 信箱 账号

CS101 / 题库 (包括计概、数算题目)
题目 排名 状态 提问

#47026629提交状态
查看 提交 统计 提问

状态: Accepted

源代码

```

n = int(input())
start = []
end = []
for _ in range(n):
    x,y = map(int,input().split())
    if y <= 60:
        start.append(x)
        end.append(y)
start_sorted = [x for x,_ in sorted(zip(start,end),key=lambda pair:pair[1])]
end_sorted = sorted(end)
len1 = len(start)
total = 1
curr = end_sorted[0]
for i in range(1,len1):
    if start_sorted[i] > curr:total+=1;curr = end_sorted[i]
print(total)

```

基本信息
: 47026629
题目: 16528
提交人: 24n2400012440徐嘉期
内存: 3896kB
时间: 33ms
语言: Python3
提交时间: 2024-11-08 00:05:03

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2. 学习总结和收获

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。

除了排队和翻译，其他感觉都是上课或者作业的模板题（？）基本不太需要花时间，默写代码即可

但是如果期末考考第一题可能会心态爆炸（悲）被自己之前不怎么在意的排序稳定性绊倒了

倒数第二题感觉是自己的运气题，考试时不确定自己能否想出这样的模拟方案（悲）

还是做题太少了