

# AssignmentA

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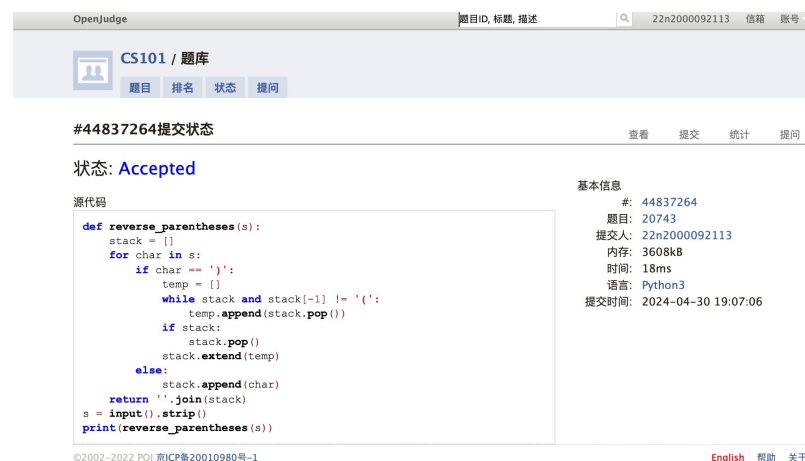
院系：心理与认知科学学院

## 一、 作业题目

1、20743: 整人的提词本（1h）

<http://cs101.openjudge.cn/practice/20743/>

```
def reverse_parentheses(s):
    stack = []
    for char in s:
        if char == ')':
            temp = []
            while stack and stack[-1] != '(':
                temp.append(stack.pop())
            if stack:
                stack.pop()
            stack.extend(temp)
        else:
            stack.append(char)
    return ''.join(stack)
s = input().strip()
print(reverse_parentheses(s))
```



OpenJudge 题目ID, 标题, 描述 22n2000092113 信箱 账号

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题目 排名 状态 提问

#44837264提交状态 查看 提交 统计 提问

状态: Accepted

源代码

```
def reverse_parentheses(s):
    stack = []
    for char in s:
        if char == ')':
            temp = []
            while stack and stack[-1] != '(':
                temp.append(stack.pop())
            if stack:
                stack.pop()
            stack.extend(temp)
        else:
            stack.append(char)
    return ''.join(stack)
s = input().strip()
print(reverse_parentheses(s))
```

基本信息

#:	44837264
题目:	20743
提交人:	22n2000092113
内存:	3608k8
时间:	18ms
语言:	Python3
提交时间:	2024-04-30 19:07:06

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2、02255: 重建二叉树（1h35min）

<http://cs101.openjudge.cn/practice/02255/>

```
def build_tree(preorder, inorder):
    if not preorder:
        return ""
    root = preorder[0]
```

```

root_index = inorder.index(root)
left_preorder = preorder[1:1 + root_index]
right_preorder = preorder[1 + root_index:]
left_inorder = inorder[:root_index]
right_inorder = inorder[root_index + 1:]
left_tree = build_tree(left_preorder, left_inorder)
right_tree = build_tree(right_preorder, right_inorder)
return left_tree + right_tree + root

```

while True:

try:

```

preorder, inorder = input().split()
postorder = build_tree(preorder, inorder)
print(postorder)

```

except EOFError:

break

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#44837279提交状态

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状态: Accepted

源代码

```

def build_tree(preorder, inorder):
    if not preorder:
        return ''

    root = preorder[0]
    root_index = inorder.index(root)

    left_preorder = preorder[1:1 + root_index]
    right_preorder = preorder[1 + root_index:]

    left_inorder = inorder[:root_index]
    right_inorder = inorder[root_index + 1:]

    left_tree = build_tree(left_preorder, left_inorder)
    right_tree = build_tree(right_preorder, right_inorder)

    return left_tree + right_tree + root

```

基本信息

#: 44837279

题目: 02255

提交人: 22n2000092113

内存: 3568k8

时间: 23ms

语言: Python3

提交时间: 2024-04-30 19:09:55

### 3、01426: Find The Multiple (2h40min)

<http://cs101.openjudge.cn/practice/01426/>

from collections import deque

def find(n):

if n == 1:

return 1

queue = deque([10,11])

mylist = [1]

while queue:

element = queue.popleft()

t = element % n

if t == 0:

return str(element)

else:

if t not in mylist:

mylist.append(t)

```

queue.append(element*10+1)
queue.append(element*10)

```

while True:

```

n = int(input())

```

```

if n == 0:

```

```

    break

```

```

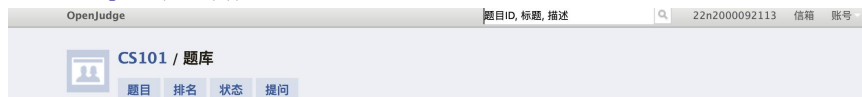
else:

```

```

    print(find(n))

```



#44837311提交状态

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状态: Accepted

源代码

```

from collections import deque
def find(n):
    if n == 1:
        return 1
    queue = deque([10,11])
    mylist = [1]
    while queue:
        element = queue.popleft()
        t = element % n
        if t == 0:
            return str(element)
        else:
            if t not in mylist:
                mylist.append(t)
                queue.append(element*10+1)
                queue.append(element*10)
    while True:
        n = int(input())

```

基本信息

#: 44837311  
 题目: 01426  
 提交人: 22n2000092113  
 内存: 3588kB  
 时间: 56ms  
 语言: Python3  
 提交时间: 2024-04-30 19:15:25

#### 4、05442: 兔子与星空 (3h30min)

Prim, <http://cs101.openjudge.cn/practice/05442/>

class DisjSet:

```

def __init__(self, n):

```

```

    self.parent = [i for i in range(n)]

```

```

    self.rank = [0] * n

```

```

def find(self, x):

```

```

    if self.parent[x] != x:

```

```

        self.parent[x] = self.find(self.parent[x])

```

```

    return self.parent[x]

```

```

def union(self, x, y):

```

```

    xset, yset = self.find(x), self.find(y)

```

```

    if self.rank[xset] > self.rank[yset]:

```

```

        self.parent[yset] = xset

```

```

    else:

```

```

        self.parent[xset] = yset

```

```

        if self.rank[xset] == self.rank[yset]:

```

```

            self.rank[yset] += 1

```

```

def kruskal(n, edges):

```

```

    dset = DisjSet(n)

```

```

    edges.sort(key=lambda x: x[2])

```

```

sol = 0
for u, v, w in edges:
    u, v = ord(u) - 65, ord(v) - 65
    if dset.find(u) != dset.find(v):
        dset.union(u, v)
        sol += w
if len(set(dset.find(i) for i in range(n))) > 1:
    return -1
return sol

n = int(input())
edges = []
for _ in range(n - 1):
    arr = input().split()
    root, m = arr[0], int(arr[1])
    for i in range(m):
        edges.append((root, arr[2 + 2 * i], int(arr[3 + 2 * i])))
print(kruskal(n, edges))

```

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#44837364提交状态
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状态: Accepted

源代码

```

class DisjSet:
    def __init__(self, n):
        self.parent = [i for i in range(n)]
        self.rank = [0] * n

    def find(self, x):
        if self.parent[x] != x:
            self.parent[x] = self.find(self.parent[x])
        return self.parent[x]

    def union(self, x, y):
        xset, yset = self.find(x), self.find(y)
        if self.rank[xset] > self.rank[yset]:
            self.parent[yset] = xset
        else:
            self.parent[xset] = yset
            if self.rank[xset] == self.rank[yset]:
                self.rank[yset] += 1

```

基本信息
# : 44837364
题目: 05442
提交人: 22n2000092113
内存: 3708kB
时间: 21ms
语言: Python3
提交时间: 2024-04-30 19:25:05

## 二、 学习总结和收获

每周都是不断地赶进度，十分焦虑了属于是，每次都看着同学们热烈讨论，但我还在看题解挣扎半天，太难了数算！！