Олимпиада «Ломоносов» по информатике
2024-2025 учебный год. Заключительный этап
Работа участника с id заявки 1387143, логином inf25f_357

Сводный итог по всем задачам в проверяющей системе

```
RunID Time Username Prob Lang Result Tests Score
370 3:59:23 inf25f_357 4 python3 Partial solution 0 0
146 2:09:59 inf25f_357 3 python3 Partial solution 22 95
60 1:03:28 inf25f_357 1 python3 Partial solution 12 32
5 0:25:50 inf25f_357 2 python3 OK 28 100
N/A N/A inf25f_357 5 N/A N/A 0 0

227 технических баллов
65 итоговых баллов
```

Посылка по задаче 1

```
[1] n1 = int(input())
[2] n2 = int(input())
[3]
[4] a = [[n1, '']]
[5] a1 = []
[6] flag = False
[7] while not flag:
[8]     for n, s in a:
[9]         if n == n2:
[10]            min_ = s
[11]            flag = True
[12]        else:
[13]            if n % 2 == 0:
[14]                a1 += [[n // 2, s + '1']]
[15]            else:
[16]                a1 += [[n * 3 + 1, s + '1']]
[17]            a1 += [[n * 2, s + '2']]
[18]            if (n - 1) % 3 == 0 and (n - 1) // 3 % 2 == 1:
[19]                a1 += [[(n - 1) // 3, s + '3']]
[20]    a = a1[:]
[21]    a1 = []
[22]
[23]print(len(min_))
[24]for i in range(len(min_) - 1):
[25]    if min_[i] == '1':
[26]        if n1 % 2 == 0:
[27]            n1 //= 2
[28]        else:
[29]            n1 = n1 * 3 + 1
[30]    elif min_[i] == '2':
[31]        n1 *= 2
[32]    else:
[33]        n1 = (n1 - 1) // 3
[34]    print(n1, end=' ')
```

Посылка по задаче 2

```
[1] letters = 'ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz'
[2] def k_to_n(s):
[3]     n = 0
[4]     i = len(s) - 1
[5]     k = 1
[6]     while i >= 0:
[7]         n1 = 0
[8]         if not s[i].isalpha():
[9]             if s[i] == '^':
[10]                n1 += 52
[11]            elif s[i] == '~':
[12]                n1 += 104
[13]            elif s[i] == '_':
[14]                n1 += 156
[15]            i -= 1
[16]        n1 += letters.find(s[i])
[17]        n += k * n1
[18]        k *= 52
[19]        i -= 1
[20]    return n
[21]
[22] n = int(input())
[23] s = []
[24] for i in range(n):
[25]     n1 = k_to_n(input())
[26]     s += [n1]
[27] s1 = sorted(s, reverse=True)
[28] for i in range(n):
[29]     if s[i] != s1[i]:
[30]         print(i + 1, end=' ')
```

Посылка по задаче 3

```
[1] n, t, m = map(int, input().split())
[2] p = list(map(int, input().split()))
[3] field = []
[4] for i in range(n):
[5]     field += [list(map(int, input().split()))]
[6] for i in range(m):
[7]     u, v, d = map(int, input().split())
[8]     u -= 1
[9]     v -= 1
[10]    field[u][v] = min(field[u][v], d)
[11]    field[v][u] = min(field[v][u], d)
[12]
[13]max_score = 0
[14]path_max = []
[15]
[16]def go(u, score, p1, t1, path):
[17]    global t
[18]    global field
[19]    global n
[20]    global max_score
[21]    global path_max
[22]    score += p1[u]
[23]    p1[u] = 0
[24]    path += [u]
[25]    if score > max_score and u == 0:
[26]        path_max = path[:]
[27]        max_score = score
[28]    for i in range(n):
[29]        if t1 + field[u][i] <= t and i != u:
[30]            go(i, score, p1[:], t1 + field[u][i], path[:])
[31]
[32]go(0, 0, p[:], 0, [])
[33]
[34]path_max = sorted(set(path_max))
[35]for i in range(len(path_max)):
[36]    path_max[i] += 1
[37]print(len(path_max))
[38]print(*path_max)
```

Посылка по задаче 4

```
[1]
[2]  def s_to_list(elem):
[3]      n = len(elem)
[4]      i = 0
[5]      elem1 = []
[6]      while i < n:
[7]          if elem[i].isalpha() and elem[i].upper() == elem[i]:
[8]              s = elem[i]
[9]              i += 1
[10]             while i < n and elem[i].isalpha() and elem[i].upper() != elem[i]:
[11]                 s += elem[i]
[12]                 i += 1
[13]             i -= 1
[14]             elem1 += [s]
[15]         elif elem[i].isdigit():
[16]             s = elem[i]
[17]             i += 1
[18]             while i < n and elem[i].isdigit():
[19]                 s += elem[i]
[20]                 i += 1
[21]             i -= 1
[22]             elem1 += [int(s)]
[23]         else:
[24]             elem1 += [elem[i]]
[25]         i += 1
[26]     n = len(elem1)
[27]     i = 0
[28]     while i < n - 1:
[29]         if type(elem1[i]) != int and (elem1[i]
[30] [0].isalpha() or elem1[i] == ')' or elem1[i] == ']') and type(elem1[i + 1]) != int:
[31]             elem1 = elem1[:i + 1] + [1] + elem1[i + 1:]
[32]             n += 1
[33]             i += 1
[34]         i += 1
[35]     return elem1
[36]
[37] def remove_brackets(s: list, k):
[38]     if '(' not in s and '[' not in s:
[39]         for i in range(len(s)):
[40]             if type(s[i]) == int:
[41]                 s[i] *= k
[42]         return s
[43]     else:
[44]         count_round = 0
[45]         count_rect = 0
[46]         i1 = 0
[47]         i2 = 0
[48]         for i in range(len(s)):
[49]             if type(s[i]) == int and count_round == count_rect == 0:
[50]                 s[i] *= k
[51]             elif type(s[i]) != int and not s[i][0].isalpha():
[52]                 if s[i] == '(':
[53]                     count_round += 1
[54]                 elif s[i] == ')':
[55]                     count_round -= 1
[56]                 elif s[i] == '[':
[57]                     count_rect += 1
[58]                 elif s[i] == ']':
[59]                     count_rect -= 1
[60]                 if count_round == count_rect == 0:
[61]                     i1, i2 = i2, i
[62]         return s[:i1] + remove_brackets(s[i1 + 1:i2], s[i2 + 1]) + ([] if i2 + 2 >= len(s) else s[i2 + 2:])
[63]
[64]
[65] while True:
[66]     left, right = input().split('=')
[67]     left = left.split('+')
[68]     right = right.split('+')
[69]     left1 = []
[70]     for i in range(len(left)):
[71]         left1 += remove_brackets(s_to_list(left[i]), 1)
[72]     a_left = []
[73]     c_left = []
[74]     for i in range(len(left1), 2):
[75]         if left1[i] not in a_left:
[76]             a_left += left1[i]
[77]             c_left += [0]
[78]         c_left[a_left.index(left1[i])] += left1[i + 1]
[79]     right1 = []
[80]     for i in range(len(right)):
             right1 += remove_brackets(s_to_list(right[i]), 1)
```

Посылка по задаче 5
Посылок по задаче 5 отправлено не было.