

Олимпиада «Ломоносов» по информатике
2024-2025 учебный год. Заключительный этап
Работа участника с id заявки 1393176, логином inf25f_308

Сводный итог по всем задачам в проверяющей системе

RunID	Time	Username	Prob	Lang	Result	Tests	Score
294	3:42:38	inf25f_308	1	py3	Partial solution	26	88
176	2:37:31	inf25f_308	5	py3	Partial solution	1	0
38	0:46:34	inf25f_308	2	py3	OK	28	100
N/A	N/A	inf25f_308	4	N/A	N/A	0	0
N/A	N/A	inf25f_308	3	N/A	N/A	0	0

188 технических баллов

54 итоговых балла

Посылка по задаче 1

```
[1] import sys
[2]
[3] def f(n):
[4]     if n % 2 == 0: return n // 2
[5]     return 3 * n + 1
[6]
[7] st = int(sys.stdin.readline())
[8] end = int(sys.stdin.readline())
[9]
[10] if st == end:
[11]     print(0)
[12] elif st / 2 == end:
[13]     print(1)
[14] elif st * 2 == end:
[15]     print(1)
[16] elif st * 3 + 1 == end:
[17]     print(1)
[18] elif (st - 1) / 3 == end:
[19]     print(1)
[20] else:
[21]     trace1 = []
[22]
[23]     r = st
[24]     while True:
[25]         r = f(r)
[26]         trace1.append(r)
[27]
[28]         if r == 1:
[29]             break
[30]
[31]     trace2 = []
[32]
[33]     r = end
[34]     while True:
[35]         r = f(r)
[36]         trace2.append(r)
[37]
[38]         if r in trace1: break
[39]         if r == 1: break
[40]
[41]     last = trace1.index(trace2[-1])
[42]     r = trace1[:last] + trace2[::-1]
[43]
[44]     print(len(r) + 1)
[45]     print(*r)
```

Посылка по задаче 2

```
[1] import sys
[2]
[3] alpha = "ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz"
[4] special = "^~_"
[5]
[6] def decode(n):
[7]     result = 0
[8]
[9]     length = len(alpha)
[10]
[11]     i = 0
[12]     while i < len(n):
[13]         r = alpha.index(n[i])
[14]
[15]         if i + 1 < len(n) and n[i+1] in special:
[16]             r += length * (1 + special.index(n[i+1]))
[17]             i += 1
[18]
[19]         result *= length
[20]         result += r
[21]         i += 1
[22]
[23]     return result
[24]
[25] def main():
[26]     int(sys.stdin.readline())
[27]     pl = []
[28]     prev = None
[29]     for i, w in enumerate(sys.stdin.readlines(), 1):
[30]         n = decode(w.strip())
[31]         if prev != None and prev < n:
[32]             pl.append(i)
[33]         prev = n
[34]     if len(pl) == 1:
[35]         print(pl[0] - 1, pl[0])
[36]     else:
[37]         print(pl[0] - 1, pl[1])
[38]
[39] if __name__ == "__main__":
[40]     main()
```

Посылка по задаче 3

Посылок по задаче 3 не было отправлено.

Посылка по задаче 4

Посылок по задаче 4 не было отправлено.

Посылка по задаче 5

```
[1] import sys
[2]
[3] M, N, K = 0, 0, 0
[4]
[5] ps = {}
[6] il = {}
[7]
[8] def calc(i):
[9]     s = "0" * M
[10]
[11]     while i != 1:
[12]         j = ps[i]
[13]         k = il[(j,i)]
[14]         s = s[:k] + "|" + s[k+1:]
[15]         i = j
[16]
[17]     return s
[18]
[19] def main():
[20]     global M, N, K, ps, il
[21]     M, N, K = [int(n) for n in sys.stdin.readline().split()]
[22]
[23]     ps = {}
[24]     il = {}
[25]     for _ in range(N-1):
[26]         S, D, B = [int(n) for n in sys.stdin.readline().split()]
[27]
[28]         ps[D] = S
[29]         il[(S,D)] = B
[30]
[31]     for _ in range(K):
[32]         P, Q = [int(n) for n in sys.stdin.readline().split()]
[33]
[34]         s1 = calc(P)
[35]         s2 = calc(Q)
[36]
[37]         max_t = 0
[38]         t = 0
[39]         for i in range(M):
[40]             if s1[i] == s2[i]:
[41]                 t += 1
[42]             else:
[43]                 max_t = max(max_t, t)
[44]                 t = 0
[45]
[46]         print(max_t)
[47]
[48] main()
```