In [1]:

```
import numpy as np

G = np.array([[1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 1, 1, 1, 1, 1, 0, 0, 0, 1],
              [0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 1, 0, 0, 1, 1, 1, 0, 1, 1],
              [0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 0, 1, 0, 1, 0, 1, 1, 1],
              [0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1, 0, 0, 0, 0, 1, 1, 1, 0],
              [0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 1, 0, 0, 1, 1, 1, 1, 1],
              [0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 1, 0, 1, 0, 0, 1, 1, 1, 1, 0, 1, 0],
              [0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 1, 0, 0, 0, 1, 1, 0, 0, 1, 1, 1],
              [0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 1, 1, 1, 0, 1, 1, 0, 1, 0, 1, 0, 0],
              [0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 1, 0, 1, 1, 1, 0, 0, 1, 1, 0, 1],
              [0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 1, 1, 1, 0, 1, 1, 1, 1, 0, 0],
              [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 1, 1, 1, 1, 1, 1, 0, 0, 0, 1, 0],
              [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1, 0, 1, 0, 1, 0, 1, 0, 0, 1]])

IS = np.array([[0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23],
               [0, 1, 2, 12, 13, 14, 3, 4, 5, 15, 16, 17, 18, 19, 20, 6, 7, 8, 21, 22, 23, 9, 10, 11],
               [0, 1, 2, 18, 19, 20, 12, 13, 14, 6, 7, 8, 21, 22, 23, 3, 4, 5, 9, 10, 11, 15, 16, 17],
               [0, 1, 2, 21, 22, 23, 18, 19, 20, 3, 4, 5, 9, 10, 11, 12, 13, 14, 15, 16, 17, 6, 7, 8],
               [0, 1, 2, 9, 10, 11, 21, 22, 23, 12, 13, 14, 15, 16, 17, 18, 19, 20, 6, 7, 8, 3, 4, 5],
               [0, 1, 2, 15, 16, 17, 9, 10, 11, 18, 19, 20, 6, 7, 8, 21, 22, 23, 3, 4, 5, 12, 13, 14],
               [0, 1, 2, 6, 7, 8, 15, 16, 17, 21, 22, 23, 3, 4, 5, 9, 10, 11, 12, 13, 14, 18, 19, 20],
               [12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11],
               [18, 19, 20, 6, 7, 8, 21, 22, 23, 9, 10, 11, 0, 1, 2, 12, 13, 14, 3, 4, 5, 15, 16, 17],
               [21, 22, 23, 3, 4, 5, 9, 10, 11, 15, 16, 17, 0, 1, 2, 18, 19, 20, 12, 13, 14, 6, 7, 8],
               [9, 10, 11, 12, 13, 14, 15, 16, 17, 6, 7, 8, 0, 1, 2, 21, 22, 23, 18, 19, 20, 3, 4, 5],
               [15, 16, 17, 18, 19, 20, 6, 7, 8, 3, 4, 5, 0, 1, 2, 9, 10, 11, 21, 22, 23, 12, 13, 14],
               [6, 7, 8, 21, 22, 23, 3, 4, 5, 12, 13, 14, 0, 1, 2, 15, 16, 17, 9, 10, 11, 18, 19, 20],
               [3, 4, 5, 9, 10, 11, 12, 13, 14, 18, 19, 20, 0, 1, 2, 6, 7, 8, 15, 16, 17, 21, 22, 23]])
ind_to_w = {
    10: "a",
    11: "b",
    12: "c",
    13: "d",
    14: "e",
    15: "f",
    16: "g",
    17: "h",
    18: "i",
    19: "j",
    20: "k",
    21: "l",
    22: "m",
    23: "n"
}

def present_num(x):
    return ind_to_w.get(x, str(x))
```

```
def present_vec(x):
    return np.array(list(map(present_num, x)))
```

In [2]:

```
def perm_row(row, inds):
    return np.array([row[i] for i in inds])

def perm_matrix(matrix, inds):
    return np.array([perm_row(matrix[i], inds) for i in range(len(matrix))])

def move_rows(G, i):
    for j in range(i, len(G)):
        if G[j][i] != 0:
            tmp = np.copy(G[j])
            G[j] = G[i]
            G[i] = tmp
            return

def gauss(G):
    r = len(G)
    n = len(G[0])
    for i in range(r):
        if G[i][i] == 0:
            move_rows(G, i)
        for j in range(r):
            if i == j:
                continue
            coef = G[j][i] / G[i][i]
            for k in range(n):
                G[j][k] = (G[j][k] + 2 - coef * G[i][k]) % 2

def mod2dot(x, G):
    res = np.array(x).dot(G)
    mod_res = list(map(lambda x: x % 2, res))
    return mod_res

def rev_perm_row(row, inds):
    return [row[list(inds).index(i)] for i in range(len(row))]

def rev_perm_matrix(matrix, inds):
    return np.array([rev_perm_row(matrix[i], inds) for i in range(len(matrix))])

def get_err_v(msg, code):
    err_v = []
    for i in range(len(code)):
        if msg[i] != code[i]:
            err_v.append(i)
    return err_v
```

In [3]:

```
msg = np.array([0, 1, 0, 1, 1, 1, 1, 0, 0, 0, 1, 1, 1, 0, 0, 1, 1, 1, 0, 1, 0, 0, 1, 0])

best_w = 1e9
answers = []
ind = 0
for cur_is in IS:
    ind += 1
    print("Информационная совокупность {}: ".format(ind), end = '')
    print(*present_vec(cur_is)[:12], sep='')

    cur_g = perm_matrix(G, cur_is)
    gauss(cur_g)
    print(rev_perm_matrix(cur_g, cur_is))
    cur_msg = perm_row(msg, cur_is)[:12]
    code = rev_perm_row(mod2dot(cur_msg, cur_g), cur_is)
    w = sum(list(map(lambda x: x % 2, msg + code)))
    if w < best_w:
        best_w = w
        answers = [code]
    elif w == best_w:
        answers.append(code)

    print("Вектор ошибки: ", end='')
    print(*present_vec(get_err_v(msg, code)), sep='')
    print("Вес вектора ошибки: {}".format(w))
    print()

print()
print("Лучший вес: {}".format(best_w))
for ans in answers:
    print(*ans, sep='')
    print(*present_vec(get_err_v(msg, ans)), sep='')
```

```
Информационная совокупность 1: 0123456789ab
[[1 0 0 0 0 0 0 0 0 0 0 0 1 0 0 1 1 1 1 1 0 0 0 1]
 [0 1 0 0 0 0 0 0 0 0 0 0 0 1 0 1 0 0 1 1 1 0 1 1]
 [0 0 1 0 0 0 0 0 0 0 0 0 0 0 1 1 0 1 0 1 0 1 1 1]
 [0 0 0 1 0 0 0 0 0 0 0 0 1 1 1 1 0 0 0 0 1 1 1 0]
 [0 0 0 0 1 0 0 0 0 0 0 0 1 0 0 0 1 0 0 1 1 1 1 1]
 [0 0 0 0 0 1 0 0 0 0 0 0 1 0 1 0 0 1 1 1 1 0 1 0]
 [0 0 0 0 0 0 1 0 0 0 0 0 1 1 0 0 0 1 1 0 0 1 1 1]
 [0 0 0 0 0 0 0 1 0 0 0 0 1 1 1 0 1 1 0 1 0 1 0 0]
 [0 0 0 0 0 0 0 0 1 0 0 0 0 1 0 1 1 1 0 0 1 1 0 1]
 [0 0 0 0 0 0 0 0 0 1 0 0 0 0 1 1 1 0 1 1 1 1 0 0]
 [0 0 0 0 0 0 0 0 0 0 1 0 0 1 1 1 1 1 1 0 0 0 1 0]
 [0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 0 1 0 1 0 1 0 0 1]]
Вектор ошибки: diklm
Вес вектора ошибки: 5

Информационная совокупность 2: 012cde345fgh
```

```
[[1 0 0 0 0 0 1 1 1 0 0 1 0 0 0 0 0 0 1 0 0 1 1 0]
 [0 1 0 0 0 0 1 0 0 0 1 1 0 0 0 0 0 0 0 1 0 1 1 1]
 [0 0 1 0 0 0 1 0 1 1 1 1 0 0 0 0 0 0 0 0 1 0 1 0]
 [0 0 0 0 0 0 1 0 0 1 1 0 1 0 0 0 0 0 1 1 1 0 0 1]
 [0 0 0 0 0 0 0 1 0 1 1 1 0 1 0 0 0 0 1 0 0 0 1 1]
 [0 0 0 0 0 0 0 0 1 0 1 0 0 0 1 0 0 0 1 0 1 1 1 1]
 [0 0 0 1 0 0 0 0 1 1 1 1 0 0 0 0 0 0 1 1 0 1 0 0]
 [0 0 0 0 1 0 0 1 1 1 0 0 0 0 0 0 0 0 1 1 1 0 1 0]
 [0 0 0 0 0 1 1 1 1 1 1 0 1 0 0 0 0 0 0 0 1 0 0 0 1]
 [0 0 0 0 0 0 0 1 1 0 1 0 0 0 0 0 1 0 0 0 0 1 1 1 1]
 [0 0 0 0 0 0 0 1 1 1 0 1 0 0 0 0 0 1 0 0 1 1 1 0 0]
 [0 0 0 0 0 0 0 1 1 1 1 0 1 0 0 0 0 0 0 0 1 1 1 0 1]]
Вектор ошибки: 79abkln
Вес вектора ошибки: 7

Информационная совокупность 3: 012ijkcde678
[[1 0 0 1 1 1 0 0 0 1 1 0 0 0 0 0 0 1 0 0 0 1 0 0]
 [0 1 0 1 0 0 0 0 0 1 1 1 0 0 0 0 1 1 0 0 0 0 1 0]
 [0 0 1 1 0 1 0 0 0 0 1 0 0 0 0 1 1 1 0 0 0 0 0 1]
 [0 0 0 1 0 0 0 0 0 0 0 1 0 0 0 1 1 0 1 0 0 1 1 1]
 [0 0 0 0 1 0 0 0 0 0 0 1 1 0 0 0 1 1 1 0 1 0 1 0 0]
 [0 0 0 0 0 1 0 0 0 0 1 1 1 0 0 0 0 1 0 0 0 1 1 0 1]
 [0 0 0 0 0 1 0 0 0 1 0 0 1 0 0 1 1 1 0 0 0 1 1 0]
 [0 0 0 0 1 1 0 0 0 0 0 1 0 0 1 0 1 0 0 0 0 0 1 1 1]
 [0 0 0 1 1 1 0 0 0 0 0 1 0 0 1 1 0 1 0 0 0 0 1 0]
 [0 0 0 1 1 0 1 0 0 1 1 1 0 0 0 1 0 0 0 0 0 0 0 1]
 [0 0 0 1 1 1 0 1 0 1 0 0 0 0 0 0 1 0 0 0 0 0 1 1]
 [0 0 0 0 1 0 0 0 1 1 0 1 0 0 0 0 0 1 0 0 0 1 1 1]]
Вектор ошибки: 349mn
Вес вектора ошибки: 5

Информационная совокупность 4: 012lmnijk345
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 [0 1 0 0 0 0 0 1 1 0 1 0 1 0 0 1 1 1 0 0 0 0 0 0]
 [0 0 1 0 0 0 1 1 1 0 0 1 1 0 1 0 1 0 0 0 0 0 0 0]
 [0 0 0 0 0 0 1 1 0 1 1 1 1 0 0 0 0 1 0 0 0 1 0 0]
 [0 0 0 0 0 0 1 1 1 1 1 0 0 0 1 0 0 1 1 0 0 0 0 1 0]
 [0 0 0 0 0 0 0 1 0 1 0 1 0 0 1 1 1 1 0 0 0 0 0 1]
 [0 0 0 0 0 0 1 1 1 1 1 1 0 0 0 1 1 0 0 1 0 0 0 0 0]
 [0 0 0 0 0 0 1 0 0 1 1 1 0 1 1 0 1 0 0 1 0 0 0 0]
 [0 0 0 0 0 0 1 0 1 0 1 0 1 1 1 1 0 0 1 0 0 1 0 0 0]
 [0 0 0 1 0 0 1 0 0 0 0 1 1 1 0 1 1 1 1 0 0 0 0 0 0]
 [0 0 0 0 1 0 0 1 0 0 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0]
 [0 0 0 0 0 1 0 0 1 1 1 1 0 1 0 1 0 1 0 0 0 0 0 0]]
Вектор ошибки: 789abdfgh
Вес вектора ошибки: 9

Информационная совокупность 5: 0129ablmncde
[[1 0 0 0 0 1 1 1 0 0 0 0 0 0 0 1 0 0 1 1 1 0 0 0]
 [0 1 0 0 1 1 1 1 1 1 0 0 0 0 0 0 0 1 0 1 0 0 0 0 0]
 [0 0 1 1 1 1 0 1 0 0 0 0 0 0 0 0 0 0 1 1 0 1 0 0 0]
 [0 0 0 1 1 0 0 0 1 1 0 0 0 0 0 1 1 1 1 1 0 0 0 0 0]
```

```
 [0 0 0 1 1 1 0 1 1 0 1 0 0 0 0 1 0 0 0 1 0 0 0 0]
 [0 0 0 0 1 0 1 1 1 1 0 0 1 0 0 0 1 0 1 0 0 1 0 0 0]
 [0 0 0 1 1 1 1 1 0 0 0 0 0 0 0 0 1 1 0 0 0 1 1 0 0]
 [0 0 0 1 0 0 0 0 1 0 0 0 0 0 0 0 1 1 1 0 1 1 0 1 0]
 [0 0 0 1 0 1 0 0 1 0 0 0 0 0 0 0 1 0 1 1 1 0 0 1]
 [0 0 0 1 0 0 1 1 1 1 0 0 0 1 0 0 0 0 1 1 1 0 0 0 0]
 [0 0 0 0 1 0 1 0 0 0 0 0 0 0 1 0 0 1 1 1 1 1 0 0 0]
 [0 0 0 0 0 1 1 0 1 0 0 0 0 0 0 1 1 1 1 0 1 0 0 0 0]]
Вектор ошибки: 57g
Вес вектора ошибки: 3

Информационная совокупность 6: 012fgh9abijk
[[1 0 0 1 1 0 1 0 0 0 0 0 0 0 1 0 0 0 0 0 0 1 1 1]
 [0 1 0 1 1 1 0 1 0 0 0 0 0 0 1 1 0 0 0 0 0 0 1 0 0]
 [0 0 1 0 1 0 0 0 1 0 0 0 1 1 1 0 0 0 0 0 0 1 0 1]
 [0 0 0 0 0 1 1 1 1 0 0 0 1 1 0 1 0 0 0 0 0 1 0 0]
 [0 0 0 0 1 1 1 0 0 0 0 0 1 1 1 0 1 0 0 0 0 0 1 0]
 [0 0 0 1 1 1 1 0 1 0 0 0 0 1 0 0 0 1 0 0 0 0 0 1]
 [0 0 0 1 0 0 1 1 0 1 0 0 1 1 1 0 0 0 0 0 0 0 0 1]
 [0 0 0 0 1 0 1 1 1 0 1 0 1 0 0 0 0 0 0 0 0 0 1 1]
 [0 0 0 0 0 1 0 1 0 0 0 1 1 0 1 0 0 0 0 0 0 1 1 1]
 [0 0 0 1 1 1 0 0 1 0 0 0 1 0 0 0 0 0 0 1 0 0 1 1 0]
 [0 0 0 1 0 0 0 1 1 0 0 0 0 1 0 0 0 0 0 0 1 0 1 1 1]
 [0 0 0 1 0 1 1 1 1 1 0 0 0 0 0 1 0 0 0 0 0 1 0 1 0]]
Вектор ошибки: 467cdem
Вес вектора ошибки: 7

Информационная совокупность 7: 012678fghlmn
[[1 0 0 1 0 0 0 0 0 1 1 1 1 1 0 0 0 0 0 0 1 0 0 0]
 [0 1 0 0 1 0 0 0 0 0 1 0 0 1 1 1 0 0 0 0 1 1 0 0 0]
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 [0 0 0 1 1 1 1 0 0 1 0 0 0 0 1 0 0 0 1 1 0 0 0 0 0]
 [0 0 0 1 0 0 0 1 0 0 1 0 0 1 1 0 0 0 1 1 1 0 0 0 0]
 [0 0 0 1 0 1 0 0 1 0 0 1 1 1 1 1 0 0 0 0 1 0 0 0 0]
 [0 0 0 1 1 0 0 0 0 0 0 0 1 1 0 0 1 0 0 1 1 1 0 0 0]
 [0 0 0 1 1 1 0 0 0 0 0 1 1 0 1 0 0 1 0 1 0 0 0 0 0]
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 [0 0 0 0 0 1 0 0 0 0 1 1 0 1 1 1 0 0 0 1 0 0 1 0 0]
 [0 0 0 0 1 1 0 0 0 0 1 1 1 1 1 0 0 0 0 0 1 0 0 1 0]
 [0 0 0 1 1 1 0 0 0 0 1 0 1 0 1 0 0 0 0 0 1 0 0 1 1]]
Вектор ошибки: 4bejk
Вес вектора ошибки: 5

Информационная совокупность 8: cdefghijklmn
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 [0 0 1 1 0 1 0 1 0 1 1 1 0 0 1 0 0 0 0 0 0 0 0 0]
 [1 1 1 1 0 0 0 0 1 1 1 1 0 0 0 0 1 0 0 0 0 0 0 0]
 [1 0 0 0 1 0 0 1 1 1 1 1 1 0 0 0 0 1 0 0 0 0 0 0]
 [1 0 1 0 0 1 1 1 1 1 0 1 0 0 0 0 0 0 1 0 0 0 0 0]
 [1 1 0 0 0 1 1 0 0 1 1 1 1 0 0 0 0 0 0 1 0 0 0 0]
 [1 1 1 0 1 1 0 1 0 1 0 0 0 0 0 0 0 0 0 1 0 0 0 0]
```

```
 [0 1 0 1 1 1 0 0 1 1 0 1 0 0 0 0 0 0 0 0 1 0 0 0]
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 [1 1 1 0 1 0 1 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 1 0]
 [1 1 1 0 1 0 1 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1]]
Вектор ошибки: 04589ab
Вес вектора ошибки: 7

Информационная совокупность 9: ijk678lmn9ab
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 [0 1 0 1 1 1 0 0 0 0 0 0 0 1 0 0 0 1 1 0 1 0 0 0 0]
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 [1 1 1 0 0 1 1 0 0 0 0 0 0 1 0 0 1 1 0 0 0 0 0 0 0]
 [1 0 0 0 1 1 0 1 0 0 0 0 0 0 1 0 1 1 1 0 0 0 0 0 0]
 [1 0 1 1 1 1 0 0 1 0 0 0 0 0 0 1 0 1 0 0 0 0 0 0 0]
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 [1 1 1 0 1 0 0 0 0 0 0 0 0 0 1 1 1 0 0 0 0 0 0 1 0]
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 [0 1 1 1 0 0 0 0 0 0 0 1 0 1 1 1 0 1 0 0 0 0 0 0 0]
 [1 1 1 1 0 1 0 0 0 0 0 0 1 0 1 0 0 0 1 0 0 0 0 0 0]]
Вектор ошибки: 04dfh
Вес вектора ошибки: 5

Информационная совокупность 10: lmn3459abfgh
[[1 0 0 0 0 0 0 0 1 0 0 0 1 1 0 0 0 0 1 1 1 1 0 0]
 [0 1 0 0 0 0 0 1 1 0 0 0 1 1 1 0 0 0 1 0 0 0 1 0]
 [0 0 1 0 0 0 1 1 1 0 0 0 0 1 0 0 0 0 0 1 0 1 0 0 1]
 [1 1 1 1 0 0 1 1 0 0 0 0 0 0 1 0 0 0 1 0 0 0 0 0]
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 [1 1 0 0 0 0 1 1 1 1 0 0 1 0 0 0 0 0 0 0 1 0 0 0]
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 [0 1 1 0 0 0 0 1 0 0 0 0 1 0 0 0 1 0 1 1 1 0 0 0]
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Вектор ошибки: 017deij
Вес вектора ошибки: 7

Информационная совокупность 11: 9abcdefgh678
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 [0 0 1 1 1 1 0 0 0 0 0 1 0 0 0 0 0 0 0 0 1 0 1 0 1]
 [1 1 1 1 1 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 1 1 0 0]
 [1 0 0 1 1 1 0 0 0 0 0 0 0 1 0 0 0 0 0 0 1 1 0 1 0]
 [1 0 1 0 1 0 0 0 0 0 0 0 0 0 1 0 0 0 1 1 1 0 0 1]
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 [1 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 1 0 0 1 1]
 [0 1 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0 1 0 0 1 1 1 1]
 [0 0 1 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 0]
 [0 1 1 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0 1 1 1]
 [1 1 1 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 1 0 1 0 1 0]]
```

```
Вектор ошибки: 0345ijl
Вес вектора ошибки: 7

Информационная совокупность 12: fghijk678345
[[1 0 0 0 0 0 0 0 0 1 1 1 0 0 1 1 0 0 0 0 0 1 1 0]
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 [0 0 1 0 0 0 0 0 0 1 0 1 1 1 1 0 0 1 0 0 0 0 1 0]
 [1 1 1 0 0 0 0 0 0 1 0 0 1 1 0 0 0 0 1 0 0 0 0 1]
 [1 0 0 0 0 0 0 0 0 0 0 1 0 1 1 1 0 0 0 0 1 0 0 1 1]
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 [0 0 1 1 0 0 0 0 0 0 1 1 0 1 0 0 0 0 0 0 0 0 1 1 1]
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 [1 1 1 0 0 1 0 0 0 0 0 1 0 0 0 1 0 0 0 0 0 0 1 0 1]]
Вектор ошибки: 19bcd
Вес вектора ошибки: 5

Информационная совокупность 13: 678lmn345cde
[[1 0 0 0 0 0 1 0 0 1 1 0 0 0 0 1 1 1 0 0 1 0 0 0]
 [0 1 0 0 0 0 0 1 0 1 1 1 0 0 0 1 0 0 0 1 1 0 0 0]
 [0 0 1 0 0 0 0 0 1 0 1 0 0 0 0 1 0 1 1 1 1 0 0 0]
 [1 1 1 0 0 0 0 0 0 0 0 0 1 0 0 0 1 0 0 1 1 0 1 0 0]
 [1 0 0 0 0 0 0 0 0 0 0 1 1 0 0 0 0 1 0 1 1 1 0 1 0]
 [1 0 1 0 0 0 0 0 0 0 1 1 1 0 0 0 0 0 1 0 1 0 0 0 1]
 [1 1 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 1 1 1 1 0 0 0]
 [1 1 1 0 1 0 0 0 0 0 0 1 0 0 0 0 0 1 1 1 0 0 0 0 0]
 [0 1 0 0 0 1 0 0 0 0 0 0 1 0 0 0 1 1 1 1 0 1 0 0 0]
 [0 0 1 0 0 0 0 0 0 0 1 1 1 1 0 0 1 1 0 1 0 0 0 0 0]
 [0 1 1 0 0 0 0 0 0 0 1 0 0 0 1 0 1 1 1 0 1 0 0 0 0]
 [1 1 1 0 0 0 0 0 0 0 1 0 1 0 0 1 0 1 0 0 0 1 0 0 0]]
Вектор ошибки: 9ahij
Вес вектора ошибки: 5

Информационная совокупность 14: 3459abcdeijk
[[1 0 0 1 0 0 1 1 1 0 0 0 0 0 0 1 1 0 0 0 0 0 0 0 1]
 [0 1 0 0 1 0 1 0 0 0 0 0 0 0 0 0 1 1 1 0 0 0 0 1 1]
 [0 0 1 0 0 1 1 0 1 0 0 0 0 0 0 0 0 1 0 0 0 0 1 1 1]
 [1 1 1 0 0 0 1 0 0 1 0 0 0 0 0 0 0 1 0 0 0 1 1 1 0]
 [1 0 0 0 0 0 0 1 0 0 1 0 0 0 0 0 1 1 0 0 0 1 1 1 1]
 [1 0 1 0 0 0 0 0 1 0 0 1 0 0 0 1 1 1 0 0 0 0 1 1 0]
 [1 1 0 0 0 0 0 0 1 0 0 0 1 0 0 1 0 0 0 0 0 1 1 1 1]
 [1 1 1 0 0 0 0 1 1 0 0 0 0 1 0 0 1 0 0 0 0 1 0 1 0]
 [0 1 0 0 0 0 1 1 1 0 0 0 0 0 0 1 0 0 1 0 0 0 1 0 1]
 [0 0 1 0 0 0 1 1 0 0 0 0 0 0 0 1 1 1 1 0 0 1 0 0 0]
 [0 1 1 0 0 0 1 1 1 0 0 0 0 0 0 1 0 0 0 1 0 0 1 0 0]
 [1 1 1 0 0 0 0 1 0 0 0 0 0 0 0 1 0 1 0 0 1 0 0 1 1]]
Вектор ошибки: 2678lmn
Вес вектора ошибки: 7
```

Лучший вес: 3
01011011001110010101001057g