#include <bits/stdc++.h>

using namespace std;

#define ll long long

#define N 100005

#define MOD 1000000007

#define dd double

#define rep(i, n) for (int i = 0; i < n; i++)

#define REP(i, a, b) for (int i = a; i < b; i++)

#define rep1(i, b) for (int i = 1; i <= b; i++)

#define pb push\_back

#define mp make\_pair

#define F first

#define S second

#define endl "\n"

const int inf = (int)1e9;

int main()

{

ios\_base::sync\_with\_stdio(false);

// freopen("input.txt", "r", stdin);

// freopen("output.txt", "w", stdout);

ll t, n, k, kn, i, j, p, q, r, flag = 0, temp;

cin >> t;

while (t--)

{

cin >> n >> kn;

int a[n + 1];

int b[n + 1];

bool seta[n + 1] = {false};

bool setb[n + 1] = {false};

map<int, bool> notseta;

map<int, bool> notsetb;

int fortwoa[n + 1] = {0};

int fortwob[n + 1] = {0};

a[0] = INT\_MAX;

a[0] = true;

int counta = n, countb = n;

rep1(i, n)

{

cin >> a[i];

b[i] = a[i];

notseta[i] = false;

notsetb[i] = false;

if (a[i] == i)

{

seta[i] = true;

setb[i] = true;

notseta[i] = true;

notsetb[i] = true;

notseta.erase(i);

notsetb.erase(i);

counta--, countb--;

}

}

int v1 = 0, v2 = 0, v3 = 0;

int k = 0;

int flag = 0;

for (int i = 1; i <= n; i++)

{

if (seta[i] == false)

{

v1 = i;

v2 = a[i];

v3 = a[a[i]];

if (v1 == a[v3] && a[v1] == v2)

{

k++;

flag = 1;

seta[v1] = true, seta[v2] = true, seta[v3] = true;

notseta.erase(v1), notseta.erase(v2), notseta.erase(v3),

a[v2] = v2, a[v3] = v3, a[v1] = v1;

counta -= 3;

break;

}

}

}

for (int i = 1; i <= n;)

{

if (seta[i] == true)

{

i++;

continue;

}

else if (counta == 2)

{

k = 0;

break;

}

v1 = i; //2

v2 = a[i]; //8

v3 = a[a[i]]; //2

if (v1 == v3)

{

fortwoa[v1] = v2;

if (fortwoa[v1] == v2 && fortwoa[v2] == v1)

{

map<int, bool>::reverse\_iterator j;

for (j = notseta.rbegin(); j != notseta.rend(); j++)

{

if (j->first != v2 && (j->first != v1))

{

v3 = j->first;

//cout<<v3<<endl;

break;

}

}

}

else

{

i++;

continue;

}

}

k++;

int x = a[v2]; //2

int y = a[v3]; //6

a[v2] = a[i], seta[v2] = true, counta--, notseta.erase(v2);

a[v3] = x;

if (v3 == x)

{

seta[v3] = true;

counta--;

notseta.erase(v3);

}

a[v1] = y;

if (v1 == y)

{

seta[v1] = true;

counta--;

notseta.erase(v1);

}

}

if (counta == 2 || k > kn)

{

cout << -1 << endl;

}

else

{

//cout<<endl;

cout << k << endl;

if (flag)

{

int k1 = 0;

for (int i = 1; i <= n; i++)

{

if (setb[i] == false)

{

v1 = i; //2

v2 = b[i]; //8

v3 = b[b[i]]; //2

if (v1 == b[v3] && b[v1] == v2)

{

k++;

flag = 1;

cout << v1 << " " << v2 << " " << v3 << endl;

setb[v1] = true, setb[v2] = true, setb[v3] = true;

notsetb.erase(v1), notsetb.erase(v2), notsetb.erase(v3),

b[v2] = v2, b[v3] = v3, b[v1] = v1;

countb -= 3;

break;

}

}

}

}

int v1 = 0, v2 = 0, v3 = 0;

for (int i = 1; i <= n;)

{

if (setb[i] == true)

{

i++;

continue;

}

else if (countb == 2)

{

break;

}

v1 = i;

v2 = b[i];

v3 = b[b[i]];

if (v1 == v3)

{

fortwob[v1] = v2;

if (fortwob[v1] == v2 && fortwob[v2] == v1)

{

map<int, bool>::reverse\_iterator j;

for (j = notsetb.rbegin(); j != notsetb.rend(); j++)

{

if (j->first != v2 && (j->first != v1))

{

v3 = j->first;

break;

}

}

}

else

{

i++;

continue;

}

}

cout << v1 << " " << v2 << " " << v3 << endl;

k++;

int x = b[v2]; //2

int y = b[v3]; //6

b[v2] = b[i], setb[v2] = true, countb--, notsetb.erase(v2);

b[v3] = x;

if (v3 == x)

{

setb[v3] = true;

countb--;

notsetb.erase(v3);

}

b[v1] = y;

if (v1 == y)

{

setb[v1] = true;

countb--;

notsetb.erase(v1);

}

}

}

}

return 0;

}