## Code-

```
#include <bits/stdc++.h>
using namespace std;
#define II long long
#define all(a) a.begin(),a.end()
#define forO(i,n) for(int i=0;i<n;i++)
#define for1(i,n) for(int i=1;i<=n;i++)</pre>
#define loop(i,a,b) for(int i=a;i<=b;i++)</pre>
#define rloop(i,a,b) for(int i=a;i>=b;i--)
#define fi first
#define nd second
#define int long long
#define pi pair<int, int>
#define vi vector<int>
#define vii vector<pi>
#define maxpq priority_queue<int>
#define minpq priority_queue<int, vi, greater<int> >
#define cy cout << "YES" << endl
#define cn cout << "NO" << endl
#define pb push_back
const int mod = (int)1e9 + 7;
long long power(int N,int R)
 //Your code here
  if(R == 0) return 1;
  long long ans = 1;
```

```
long long know = power(N, R/2)%mod;
  if(R%2) ans = N;
  return (ans*((know*know)%mod))%mod;
}
void test_cases(){
  int n, m;
  cin >> n >> m;
  vi p(n);
  for 0(i, n) cin >> p[i];
  vi arr(n);
  for0(i, n) cin >> arr[i];
  int val = INT_MIN;
  int cnt = 0;
  int totalzero = 0;
  int zero = 0;
  set<int> values;
  for0(i, n){
    if(p[i] - 1 >= i){
      if(arr[p[i] - 1] == 0) zero++;
       else values.insert(arr[p[i] - 1]);
    }
    if(arr[i] == 0) totalzero++;
  }
  if(values.size() > 1) {
    cout << 0 << endl;
    return;
  }
```

```
// if(zero > 0 && values.size() > 1 && (*(values.begin())) > m) {
  // cout << 0 << endl;
  // return;
  //}
  int ans;
  if(values.size() == 0){
    ans = power(m, totalzero - zero + 1);
  }
  else ans = power(m, totalzero - zero);
  cout << ans << endl;
}
signed main(){
#ifndef ONLINE_JUDGE
  //for getting input from input.txt
  freopen("input.txt", "r", stdin);
  //for writing output to output.txt
  freopen("output.txt", "w", stdout);
#endif
  II t = 1;
  cin >> t;
  while(t--){
    test_cases();
  }
  return 0;
}
```

