/\*

PROG: sec

LANG: C++

ID: hayk.sa1

\*/

#include <stdio.h>

struct node

{

int val;

int end, p;

node \*n[2];

} \*head, \*c;

int main()

{

freopen("sec.in", "r", stdin);

freopen("sec.out", "w", stdout);

int ans;

int n, m, p, t, i, j;

scanf("%d%d", &n, &m);

head = new node;

head->val = 0;

head->end = head->p = 0;

head->n[0] = head->n[1] = NULL;

for (i = 0; i < n; i++)

{

scanf("%d", &p);

c = head;

for (j = 0; j < p; j++)

{

scanf("%d", &t);

if (c->n[t] == NULL)

{

c->n[t] = new node;

c->n[t]->val = t;

c->n[t]->n[0] = c->n[t]->n[1] = NULL;

c->n[t]->p = 1;

if (j+1 == p)

c->n[t]->end = 1;

else

c->n[t]->end = 0;

}

else

{

c->n[t]->p++;

if (j+1 == p)

c->n[t]->end++;

}

c = c->n[t];

}

}

for (i = 0; i < m; i++)

{

ans = 0;

scanf("%d", &p);

c = head;

for (j = 0; j < p && c; j++)

{

scanf("%d", &t);

if (j+1 != p && c->n[t] != NULL)

ans += c->n[t]->end;

if (j+1 == p && c->n[t] != NULL)

ans += c->n[t]->p;

c = c->n[t];

}

while (j < p)

{

scanf("%d", &t);

j++;

}

printf("%d\n", ans);

}

return 0;

}