|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Neptun kód: | **AZXX1Z** |  | Név: | Soós Csaba |
| Beadás verziószáma: | 1. | | | |

## Feladat

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## [Specifikáció](https://progalap.elte.hu/specifikacio/?data=H4sIAAAAAAAAE41SS07DMBS8yiMrKpkSu4WCRZCKQAjxkyiwIM0iIQHcNi4iyQIQEux6Fc7BTTgJz3bcOnwkqjR%2Bfpl5npnk2Svus2txI67jUkylx72djIP8nM1OCORmmYiijFUZ0nY7j4ZyEHOYPhTZbTa2bRkR0yqe4nw6XqAJjKuJu70TsXy0jTTBTpqo7VAeCg7VyNR7NxyW6VYg4eO9ALkVUN9v6Vp1c13l%2BLg1lBcI%2FZy9CiSaM5BZqwu19FBEEQRANX8oAX%2BOVHxyeHD58XZ0ut8%2FXxaBMkOsPaTCUgA%2BAdFqswUfPYVUDXUGqcYK0AXIimK1KEUS30lCkRqNFTPHUZsmSNrtn%2FV3jL5ch4rUbRelg%2F3FjYO2VcNLNULS4Ori%2BLhvCGlSvyVErrKWR7wyK8rC4%2BGzl8ZljB8JSA50Dfk5h01cdM4cwnUCHQKU4R8P6xJYI7CBG1xoF78cmytCMVO8qHP59u43O3RONBEhuWOHr5v5tD60q85ScPSJMGbHmUFsfoaCpAkHhqu2qsFMtauRaaNtGecZmsXqISuqSelx%2BkKaGfgmg66TAdPaegQ2fxj%2BadLR03TYnGLsUOtCJzLXbc3QWj39l%2FQNo7zjKDevrNeU%2FU3tn4IdslHra6msIbXe2%2Bh11n%2BojV6%2BAGf9qmOcBAAA)

*Be*: n∈N, m∈N, lista∈N[1..m]

*Sa*: orsegek∈N[1..n], orsegszamok∈N[1..m], kul∈N[1..m], hiany∈N[1..db], db∈N

*Ki*: uj∈N

*Ef*: (1<=n és n<=100) és (1<=m és m<=n)

*Uf*: ∀i∈[1..m]: (orsegek[lista[i]] = 1) és

orsegszamok = KIVÁLOGAT(i=1..n, orsegek[i] != 0, i).2 és

kul[1] = orsegszamok[1] - 1 és

∀i∈[2..m]: (kul[i] = orsegszamok[i] - orsegszamok[i-1] - 1) és

db = DARAB(i=1..m, kul[i]>1) és

hiany = KIVÁLOGAT(i=1..m, kul[i]>1, kul[i]).2 és

uj = SZUMMA(i=1..db, hiany[i]/2)

## Sablon

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## Visszavezetés

MÁSOL: ∀i∈[e..u]:(y[i-e+1]=f(i))

e..u ~ 1..m

y[i-e+1] ~ orsegek[lista[i]]

f(i) ~ 1

KIVÁLOGAT:

y ~ orsegszamok

e..u ~ 1..n

T(i) ~ orsegek[i] != 0

f(i) ~ i

MÁSOL: ∀i∈[e..u]:(y[i-e+1]=f(i))

e..u ~ 2..m

y[i-e+1] ~ kul[i]

f(i) ~ orsegszamok[i] - orsegszamok[i-1] - 1

DARAB:

db ~ db

e..u ~ 1..m

T(i) ~ kul[i] > 1

KIVÁLOGAT:

y ~ hiany

e..u ~ 1..m

T(i) ~ kul[i]>1

f(i) ~ kul[i]

SZUMMA:

s ~ uj

e..u ~ 1..db

f(i) ~ hiany[i]/2

## [Algoritmus](https://progalap.elte.hu/stuki/?data=H4sIAAAAAAAAE61Y23LiOBD9laynamumhmSNuQW2eEhCCGRCLhAugeLBF%2FkCxia%2BJJhUPmi%2BY35sJIHa8g6uHe3GL7Qb6ZzT3ZLc9pvkGFJDkk8URa7VZaVeqZdq1aKslKWCZPsvKOji%2F73YdQtSiFykR8ggHuniUblou0MXD%2FN8A4VS402qloal66KcEJvCgqMgrdUAeVEKZjuGgTypYapuiApSlKwRnhCi5xh5OsITdNtxDTyna2DsmYRaTrEzfvXxP5p3Fm6M7SU2%2B5FXXY3cITY5QeNTs9KyL1fYvHwenVqdTQ%2BbL%2FY4aTlhF5sP3uliMim3sHnWfU0mo8o1QehcfWupbRmbynJ1o1zYxLwMdSc23YU0fy9Ig2fXrUTLACIEBx8hr1A0zqeVXa95ZUTpAIfRccAcHZfmw3SvmINy%2BZ7hRI6PB0hOs3hyQlKk%2BUYy2OvpZmLCCkAOUwCOjAIuDTkBR2qEVng4HhGhTYRdfhAiCy1nroP%2FnDnzeaNZJJRQU0bJFVkk6DzKcKuu%2FGWjOZsTNnlaaqHBIAQ2cGTYuNUlWtFk0UIamvZpRQGH0XHAIsHlVtQ7VFGICStIJpZ21%2FfTgMGRUQCqxQPuD5ffnqbDIQ14%2FNBrX7R6z0AHjgzdXXJ7fjsyH3PpPN9fE%2FkwkOFxMz9GPggk8gEHspUCc3TcojlM55j%2FKBZb%2Fc786I%2FmETlooiBG54Hq6Xamdlx5KOSBIZACsntY8mH3MEc2Pynqf9s9ox%2FfrR%2FfA%2FSZ8xaOnC9EA5y%2FUPP0QBZZ5Ac0LGMXp6zR5FhnxfkxPTjuW5H3ELWXQAuODC33SBBdGpZ%2F87TePN3SpQE4jI4DFony8FZWcg5niAkrADlMATgyCrg0%2FK88O%2FPjzO0xSzw8WZkO7lErkokDOgyt0ZQJx7S%2F1rdX9zZwgCPDwT3ZRYurTTaGb%2BmPtLiAw%2Bg4YJGQxJ68EBNWYC6C8yu9NwYF4Mi2Gky1eMDoZRotBs9lGnAl7Ny4N0raaoAje250uuPt%2FfA8l46d0zAQDs505sfIB4G0U2I40CmlwBwdt2h%2B85zebYQ%2FrejvopR7RnOlyTujIXwsFhLPxIIjI5ZDFdovhvaVbktobRkN1%2BuKrOEDNLajeglroczapF1Ck%2Ft0pTJHtoVK22vRUqO15fidpbVroRgOtFApsEhYYlsTYsIKXnt2udo%2FS89dcGQUgGrxgG%2Bn7bs4vH6iAa8vRn5y39kAHTiy%2BR1tx%2FHjIv7XrQkDIYHpzI%2BRDwKJfMCB1Z4C86s9XTQfuTW50uRtTQgfi4XEM7HgyIjlUEX3DDRO9L5wtIuC9k3w1snIuddQkZV9gDxe7J%2BjgzPnZdOy0v4QHNkmib31ihffrz5GQSXZN0kMB5qkFFgkpNzNamiHdisEhSWAHiYBHBkJXB6EshovvtJK4iL%2BpdDTnX2pgPWefroQCTn%2FlXl38GKqEC96PfKtQF2R1L9JnroiU3uq4332Gpd4oYXbwtEKLPquvb%2Bj9pf9DeZ4UQNH1VzyKUfCt4Hv%2FyI0tP3XDlINFEgNst92nlE6kUbwPid1crFYkoKd9Jn0yTRlfGGUT%2BTXJLsZ%2B3TwaXIFLJNaNbkkq9TSkWqe1qT5LhPnqr60Aj%2F2jD2wpmgKGUZ%2BGTDSmQ%2FVdJVZJrWMsi4jhcCRb1e%2FwOn4oqz4YnCmwnzINPQ8OK4gv6CSax%2Fzb%2BGbZr2%2B%2B1eWT%2FV6hVgIobJR5TPy%2Fv4Tmz0e18MTAAA%3D)

A screenshot of a computer

Description automatically generated

## Kód (C#)

using System;

namespace uj\_orseg\_kuldese\_a\_kinai\_nagy\_falra

{

class Program

{

static void Main(string[] args)

{

string[] sortomb = Console.ReadLine().Split(' ');

int n = int.Parse(sortomb[0]);

int m = int.Parse(sortomb[1]);

int[] lista = new int[m];

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

lista[i] = (int.Parse(Console.ReadLine()));

int[] orsegek = new int[n];

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

orsegek[lista[i]-1] = 1;

int[] orsegszamok = new int[m];

int j = 0;

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

if (orsegek[i] != 0){

orsegszamok[j] = i+1;

++j;

}

}

int[] kul = new int[m+1];

kul[0] = orsegszamok[0] - 1;

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

kul[i] = orsegszamok[i] - orsegszamok[i - 1] - 1;

if (orsegszamok[orsegszamok.Length - 1] != n)

{

kul[kul.Length - 1] = n - orsegszamok[orsegszamok.Length-1];

}

int db = 0;

for (int i = 0; i < m+1; i++){

if (kul[i]>1){

db = db + 1;

}

}

int[] hiany = new int[db];

j = 0;

for (int i = 0; i < m+1; i++){

if (kul[i]>1){

hiany[j] = kul[i];

++j;

}

}

int uj = 0;

for (int i = 0; i < db; i++){

uj = uj + hiany[i] / 2;

}

Console.WriteLine(uj);

}

}

}

/\*

15 9

6

3

12

11

4

5

8

15

14

\*/

## Bíró pontszám és képernyőkép

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## Saját tesztfájlok

1.

10 4

2

4

7

9

2.

8 3

1

4

7

Github repo:

<https://github.com/csabisoos/elte/tree/main/1.%20felev/programozas%20gyak/beadando_2>