TERESA DI DONA

ESERCIZIO N°1

//La complessità dell'algortimo O(nLogn)

import java.util.\*;

class Primo {

static int conteggio(int a[], int l, int h, int k)

{

if ((l > h) || (l == h && a[l] != k))

{

return 0;

}

if (l == h && a[l] == k)

{

return 1;

}

return conteggio(a, l, (l + h) / 2, k)+ conteggio(a, 1 + (l + h) / 2, h, k);

}

public static void main(String args[])

{

int nCasiTest=0, k, n, occ=0;

int a[];

Scanner scan=new Scanner(System.in);

nCasiTest=scan.nextInt();

for(int j=0;j<nCasiTest;j++)

{

k=scan.nextInt();

n=scan.nextInt();

a=new int[n];

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

{

a[i]=scan.nextInt();

}

occ=conteggio(a,0,n-1,k);

System.out.println(occ);

}

}

}

ESERCIZIO N°2

import java.io.\*;

import java.util.\*;

class Secondo

{

static ArrayList<Integer> a = new ArrayList<Integer>();

static ArrayList<Integer> primi = new ArrayList<Integer>();

static void stampa()

{

for (int i = 0; i < a.size(); i++)

{

System.out.print( a.get(i) + " ");

}

System.out.println();

}

static boolean verificaPrimo(int x)

{

int radice = (int)Math.sqrt(x);

if (x == 1)

{

return false;

}

for (int i = 2; i <= radice; i++)

{

if (x % i == 0)

{

return false;

}

}

return true;

}

static void Somma(int total, int N, int S, int ind)

{

if (total == S && a.size() == N)

{

stampa();

return;

}

if (total > S || ind == primi.size() || a.size() >= N)

{

return;

}

a.add(primi.get(ind));

Somma(total + primi.get(ind), N, S, ind + 1);

a.remove(a.size() - 1);

Somma(total, N, S, ind + 1);

}

static void Primi(int N,int S,int P)

{

for (int i =P + 1; i<=S; i++)

{

if (verificaPrimo(i))

primi.add(i);

}

if (primi.size()<N)

return;

Somma(0, N, S, 0);

}

public static void main(String args[])

{

Scanner scan=new Scanner(System.in);

int nCasiTest=scan.nextInt();

int S=0;

int N=0;

int P=0;

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

{

a = new ArrayList<Integer>();

primi = new ArrayList<Integer>();

S=scan.nextInt();

N=scan.nextInt();

P=scan.nextInt();

System.out.println("CASO DI TEST "+(i+1));

Primi(N,S,P);

}

}

}