PIETROLUONGO PREZIOSA

Primo esercizio:

//LA COMPLESSITà è O(nlogn)

import java.util.\*;

class PrimoEs {

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 nTest=0, k, n, val=0;

int a[];

Scanner scan=new Scanner(System.in);

nTest=scan.nextInt();

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

{

k=scan.nextInt();

n=scan.nextInt();

a=new int[n];

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

{

a[i]=scan.nextInt();

}

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

System.out.println(val);

}

}

}

Secondo esercizio

import java.util.\*;

class SecondoEs

{

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

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

static boolean controlloPrimo(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 stampa()

{

//int length = set.size();

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

{

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

}

System.out.println();

}

static void somma(int total, int N, int S, int index)

{

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

{

stampa();

return;

}

if (total > S || index == prime.size() || set.size() >= N)

{

return;

}

set.add(prime.get(index));

somma(total + prime.get(index), N, S, index + 1);

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

somma(total, N, S, index + 1);

}

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

{

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

{

if (controlloPrimo(i))

prime.add(i);

}

if (prime.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, N=0, P=0;

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

{

set = new ArrayList<Integer>();

prime = new ArrayList<Integer>();

S=scan.nextInt();

N=scan.nextInt();

P=scan.nextInt();

System.out.print("Caso di test "+(i+1)+"\n");

primi(N, S, P);

}

}

}