Problem: GEM-STONES

John has collected various rocks. Each rock has various minerals embeded in it. Each type of mineral is designated by a lowercase letter in the range . There may be multiple occurrences of a mineral in a rock. A mineral is called a *gemstone* if it occurs at least once in each of the rocks in John's collection.

Given a list of minerals embedded in each of John's rocks, display the number of types of gemstones he has in his collection.

**Input Format**

The first line consists of an integer , the number of rocks.   
Each of the next  lines contains a string where each letter represents an occurence of a mineral in the current rock.

**Constraints**

Each composition consists of only lower-case Latin letters ('a'-'z').   
 *length of each composition*

**Output Format**

Print the number of types of gemstones in John's collection. If there are none, print .

**Sample Input**

3

abcdde

baccd

eeabg

**Sample Output**

2

**Explanation**

Only  and  are gemstones. They are the only types that occur in every rock.

Solution:

int contains(string str, char temp)

{

int flag = 0;

int length = str.length();

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

{

if(str[i]==temp)

{flag=1;}

}

if(flag==1)

return 1;

return 0;

}

int main() {

/\* Enter your code here. Read input from STDIN. Print output to STDOUT \*/

int cases;

string duplicate="";

int length, index = 0, counter = 0;

cin>>cases;

string array[cases];

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

{

cin>>array[i];

int temp = array[i].length();

if(i==0)

length = temp;

else if(i!=0 && temp<length)

{

length = temp;

index = i;

}

}

int result = 0;

string str = array[index];

length = str.length();

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

{

char temp = str[i];

if(!contains(duplicate, temp))

{

counter=0;

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

{

if(j!=index)

{

if(!contains(array[j], temp))

{ counter+=0; }

else

{counter +=1;}

}

}

if(counter == cases-1)

{result+=1;

duplicate+=temp;

}

}

}

cout<<result;

return 0;

}

Elegant Solution

public class Solution

{

public static void main(String[] args)

{

Scanner sc = new Scanner(System.in);

int cases = sc.nextInt();

Set <Character> set = pick(sc.next()); //input the first string in the set

for(int i=0; i<cases-1; i++)

{

set.retainAll(pick(sc.next()));

}

System.out.println(set.size());

}

public static Set<Character> pick(String str)

{

Set<Character> set = new HashSet<Character> (26);

for(char c: str.toCharArray())

{

set.add(Character.valueOf(c));

}

return set;

}

}

`’Anshul AGgarwal