#include<iostream>

#include<algorithm>

#include<string>

using namespace std;

//sort acc to len; if equal len then acc to lexo order

bool compare(string a,string b)

{

if(a.length()==b.length())

{

return a<b;

}

return a.length()<b.length();

}

int main()

{

int n;

cin>>n;

cin.get();

string s[100];

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

{

getline(cin,s[i]);

}

sort(s,s+n,compare);

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

{

cout<<s[i]<<endl;

}

}