Important input-output techniques for solving online judge problems

SAMPLE INPUT-OUTPUT - 1

Input Specification:

Input starts with an integer T , denoting the number of test cases. Each test case will contain two integers a and b.

Output Specification:

For each test case, output one line in the format “Case x: c” (quotes for clarity), where x is the case number and c is the sum of a and b .

Sample Input:

```
2
5 10
9 4
```

Sample Output:

```
Case 1: 15
Case 2: 13
```

C Code :

```c
#include <stdio.h>
int main(){
    int cas,i,a,b,c;
    scanf("%d",&cas);
    for(i=1;i<=cas;i++){
        scanf("%d %d",&a,&b);
        c=a+b;
        printf("Case %d: %d\n",i,c);
    }
    return 0;
}
```

C++ Code:

```cpp
#include <iostream>
using namespace std;
int main(){
    int cas,i,a,b,c;
    cin>>cas;
    for(i=1;i<=cas;i++){
        cin>>a>>b;
        c=a+b;
        cout<<"Case "<<i<<": "<<c<<endl;
    }
    return 0;
}
```

SAMPLE INPUT-OUTPUT - 2

Input Specification:

Input file will consist of several lines. Each line contains two integers a and b. Input is terminated by a line containing two zeroes. This line should not be processed.

Output Specification:

For each line of input produce one line of output. This line contain the value of c, where c = a*b. After each test case, you should print a blank line.

Sample Input:

```
2 2
3 3
0 0
```

Sample Output:

```
4

9
```

C Code:

```c
#include <stdio.h>
int main(){
  int a,b,c;

  while(scanf("%d %d",&a,&b)==2){
      if(a==0&&b==0)break;
      c = a*b;
      printf("%d\n\n",c);
  }
  return 0;
}
```

C++ Code:

```cpp
#include <iostream>
using namespace std;
int main(){
     int a,b,c;

     while(cin>>a>>b){
          if(a==0&&b==0)break;
          c = a*b;
          cout<<c<<endl<<endl;
     }
     return 0;
}
```

SAMPLE INPUT-OUTPUT - 3

Input Specification:

Input file consist of several test cases. Each test case contains a line and each line will contains two integers a and b(b>0). Input is terminated by EOF.

Output Specification:

For each test case you should output a line. This line contains the value of c wherec=a%b. You should print a blank line between two consecutive test cases.

Sample Input:

```
3 2
2 3
1 1
```

Sample Output:

```
1

2

0
```

C Code :

```c
#include <stdio.h>
int main(){
    int a,b,c,temp=0;
    while(scanf("%d %d",&a,&b)==2){
        c = a%b;
        if(temp)
            printf("\n");
        printf("%d\n",c);
        temp=1;
    }
    return 0;
}
```

C++ Code :

```cpp
#include <iostream>
using namespace std;
int main(){
    int a,b,c,temp=0;
    while(cin>>a>>b){
        c=a%b;
        if(temp)
            cout<<endl;
        cout<<c<<endl;
        temp=1;
    }
    return 0;
}
```

SAMPLE INPUT-OUTPUT - 4

Input Specification:

The input data for any test case consists of a sequence of one or more non-negative integers. The last number in each sequence is -1, which signifies the end of data for that particular test case. The end of data for the entire input is the number -1 as the first value in a test case and it is not considered to be a separate test.

Output Specification:

For each test case produces a line of output, this line contains the maximum value in a test case.

Sample Input:

```
4
10
9
-1
5
4
-1
-1
```

Sample Output:

```
10
5
```

C Code:

```c
#include <stdio.h>
int main(){
    int n,max_val;
    while(scanf("%d",&n)==1 && n!=-1){
        max_val=n;
        while(scanf("%d",&n)==1 && n!=-1)
            if(n>max_val) max_val=n;
        printf("%d\n",max_val);
    }
    return 0;
}
```

C++ Code:

```cpp
#include <iostream>
using namespace std;
int main(){
    int n,max_val;
    while(cin>>n && n!=-1){
        max_val=n;
        while(cin>>n && n!=-1)
            if(n>max_val) max_val=n;
        cout<<max_val<<endl;
    }
    return 0;
}
```

SAMPLE INPUT-OUTPUT - 5

Input Specification:

Input file consists of several test cases. First line of each test case contains an integer n. Followed by a line contains n integers which are the age of n students.

Output Specification:

For each test case print a line contains two integers Maximum and Minimum Age among them.The Two age are separated by a single space.

Sample Input:

```
5
10 12 8 13 20
3
7 8 9
```

Sample Output:

```
8 20
7 9
```

C Code:

```c
#include <stdio.h>
int main(){
    int n,age,max_age,min_age;
    while(scanf("%d",&n)==1){
        scanf("%d",&age);
        min_age=max_age=age;
        n--;
        while(n--){
            scanf("%d",&age);
            if(age<min_age)
                min_age=age;
            if(age>max_age)
                max_age=age;
        }
        printf("%d %d\n",min_age,max_age);
    }
    return 0;
}
```

C++ Code:

```cpp
#include <iostream>
using namespace std;
int main(){
    int n,age,max_age,min_age;
    while(cin>>n){
        cin>>age;
        min_age=max_age=age;
        n--;
        while(n--){
            cin>>age;
            if(age<min_age)
                min_age=age;
            if(age>max_age)
                max_age=age;
        }
        cout<<min_age<<" "<<max_age<<endl;
    }
    return 0;
}
```

SAMPLE INPUT-OUTPUT - 6

Input Specification:

The input begins with a single positive integer n on a line by itself indicating the number of the cases. Each test case contains a line.This line consists by one or more words.

Output Specification:

For each test case output a single integer in a line which denotes the length of input string.

Sample Input:

```
2
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```

Sample Output:

```
16
16
```

C Code:

```c
#include <stdio.h>#include <string.h>#define size 1000
int main(){
    int length,cas;
    char inputStr[size];
    scanf("%d",&cas);
    getchar();  // For ignoring new line
    while(cas--){
        gets(inputStr);
        length = strlen(inputStr);
        printf("%d\n",length);
    }
    return 0;
}
```

C++ Code:

```cpp
#include <iostream>#include <cstdio>#include <string>
using namespace std;
int main(){
    int length,cas;
    string inputStr;
    cin>>cas;
    getchar(); // For ignoring new line
    while(cas--){
        getline(cin,inputStr);
        length = inputStr.length();
        cout<<length<<endl;
    }
    return 0;
}
```

SAMPLE INPUT-OUTPUT - 7

Input Specification:

Input file contains a series of lines. Each line contains one or more integers.

Output Specification:

For each line of input generate a line of output. This line contains an integer, which is the minimum number of input line.

Sample Input:

```
10 5 7 9 10 3
4 7 8
```

Sample Output:

```
5
4
```

C Code:

```c
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#define size 1000

int main(){
    char inputStr[size],*tempStr;
    int minNum,num;
    while(gets(inputStr)){
        tempStr = strtok(inputStr," ");
        minNum = atoi(tempStr);
        while(tempStr!=NULL){
            num = atoi(tempStr);
            if(num<minNum)
                minNum=num;
            tempStr=strtok(NULL," ");
        }
        printf("%d\n",minNum);
    }
    return 0;
}
```

C++ Code:

```
#include <iostream>
#include <cstdlib>
#include <sstream>
#include <string>

using namespace std;
int main(){
  string inputStr,tempStr;
  int minNum,num;
  while(getline(cin,inputStr)){
      istringstream token(inputStr);
      token>>tempStr;
      minNum = atoi(tempStr.c_str());
      while(token){
          token >> tempStr;
          num = atoi(tempStr.c_str());
          if(num<minNum)
              minNum=num;
      }
      cout<<minNum<<endl;
  }
  return 0;
}
```

SAMPLE INPUT-OUTPUT - 8

Input Specification:

The first line of Input file contains an integer n denotes the number of test case.Each test case contains a line. There are one or more integers in this line.

Output Specification:

For each test case output the maximum number.(See the sample I/O)

Sample Input:

```
2
10 5 7 9 10 3
4 7 8
```

Sample Output:

```
10
8
```

C Code:

```c
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#define size 1000

int main(){
    char inputStr[size],*tempStr;
    int minNum,num,cas;
    scanf("%d",&cas);
    getchar();  // To ignore new line
    while(cas--){
        gets(inputStr);
        tempStr = strtok(inputStr," ");
        minNum = atoi(tempStr);
        while(tempStr!=NULL){
            num = atoi(tempStr);
            if(num<minNum)
                minNum=num;
            tempStr=strtok(NULL," ");
        }
        printf("%d\n",minNum);
    }
    return 0;
}
```

C++ Code:

```cpp
#include <iostream>
#include <cstdlib>
#include <sstream>
#include <cstdio>
#include <string>

using namespace std;

int main(){
    string inputStr,tempStr;
    int maxNum,num,cas;
    cin>>cas;
    getchar();  // To ignore new line
    while(cas--){
        getline(cin,inputStr);
        istringstream token(inputStr);
        token>>tempStr;
        maxNum = atoi(tempStr.c_str());
        while(token){
            token >> tempStr;
            num = atoi(tempStr.c_str());
            if(num>maxNum)
                maxNum=num;
        }
        cout<<maxNum<<endl;
    }
    return 0;
}
```

Collected and prepared by

Sudipto Chowdhury Dip
32nd Batch, CSE
Leading University, Sylhet

THANK YOU