

*Uva problem number: 10055*

*Problem Name: Hashmat the brave warrior*

*Problem logic:*

In this problem, I have to find out the difference between Hasmat's and his opponent's soldier number. For some condition we should be careful that the difference will be not negative and so I always subtract small number from large number following the input

*C/C++ Code:*

```
#include<iostream>
using namespace std;
int main()
{
    long long int n, r ,s;
    while(cin>>n>>r)
    {
        if(n>=r)
        {
            s=n-r;
            cout<<s<<"\n";
        }
        else
        {
            s=r-n;
            cout<<s<<"\n";
        }
    }
}
```

*Uva problem number: 10071*

*Problem Name: Back to High School Physics*

*Problem logic:*

In this problem, I have to find out the displacement of a particle from its starting time to  $2t$  time where  $t$  is the time when the particle gains its velocity. In a condition, acceleration is constant so the particle is dynamic in a uniform velocity. So the displacement is,  $s=vt$ . And for twice time the equation is,  $s=2vt$ .

*C/C++ Code:*

```
#include<iostream>
using namespace std;
int main()
{
    int v,t;
    while(cin>>v>>t)
    {
        int s;
        s=2*v*t;
        cout<<s<<"\n";
    }
}
```

Uva problem number: 10696

Problem Name: f91

### Problem logic:

In this problem, I have to find out result (must be an integer number) following the input from this equation with some condition below;

If  $N \leq 100$ , then  $f91(N) = f91(f91(N+11))$ ;

If  $N \geq 101$ , then  $f91(N) = N-10$ .

let,  $N=98$  so it exist 1'st condition. As the result is 109 then it exist 2'nd condition. For the 2'nd condition the result is 99 and it exist 1'st condition. Keeping this procedure continue finally we find 91. And for any value of  $N$ , ( $N \leq 100$ ) we must be find out 91. On the other hand if  $N=123$ , it exist 2'nd condition and the value is 113.

### C/C++ Code:

```
#include<iostream>
using namespace std;
int main()
{
    for(int i=1;i<=250000;i++)
    {
        long long int N,n;
        cin>>N;
        if(N==0)
            break;
        else if(N<=100)
            cout<<"f91("<<N<<") = "<<"91"<<"\n";
        else if(N>=101)
        {
            n=N-10;
            cout<<"f91("<<N<<") = "<<n<<"\n";
        }
    }
}
```

*Uva problem number: 10970*

*Problem Name: Big Chocolate*

*Problem logic:*

In this problem, I just find out the minimum number of cuts for cut the chocolate. Suppose, the unit-size of the chocolate is  $M \times N$  where  $M$  is the vertical and  $N$  is the horizontal direction. so we can cut this chocolate vertically  $(M-1)$  time and horizontally  $(N-1) \times M$  time. Now the total minimum number of cuts (suppose  $b$ ) is,

$$b = (M-1) + (N-1) \times M$$

$$b = M-1 + M \times N - M$$

$$b = M \times N - 1$$

*C/C++ Code:*

```
#include<iostream>
using namespace std;
int main()
{
    int M,N,a,b;
    while(cin>>M>>N)
    {
        a=M*N;
        b=a-1;
        cout<<b<<"\n";
    }
}
```

Uva problem number: 12646

Problem Name: One or Zero

### Problem logic:

In this problem, I have to find out the winner among the following input which includes the choice of 3 friends. Here the winner will be this person whose choice (one or zero) is different from other. Suppose the input is 1 1 0, here 0 is the winner. And if there is no winner I print “\*”.

### C/C++ Code:

```
#include<iostream>
using namespace std;
int main()
{
    int A,B,C;
    while(cin>>A>>B>>C)
    {
        if(A==B && B==C)
            cout<<"*\n";
        else if(A==B)
            cout<<"C\n";
        else if(B==C)
            cout<<"A\n";
        else if(C==A)
            cout<<"B\n";
    }
}
```