Lab Exam 01

**#module\_release #module\_7 (Lab Exam 01)**

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A - A

**Problem Statement**

Neil is playing with alphabets. There are 26 alphabets in English Language. 5 of them are vowels: a, e, i, o and u.

As Neil is a kid, he can't tell it clearly. If he gives you an alphabet **c**, can you tell him whether it is vowel or consonant.

**Constraints**

* *c* is a lowercase English letter.

**Input**

The input is given from Standard Input in the following format:

*c*

**Output**

If *c* is a vowel, print vowel. Otherwise, print consonant.

**Sample 1**

| **Input** | **Output** |
| --- | --- |
| a | vowel |

Since a is a vowel, print vowel.

**Sample 2**

| **Input** | **Output** |
| --- | --- |
| z | consonant |

**Sample 3**

| **Input** | **Output** |
| --- | --- |
| s | consonant |

#include<stdio.h>

int main()

{

char ch;

scanf("%c",&ch);

if((ch>='a' && ch<='z') || (ch>='A' && ch<='Z'))

{

if(ch=='a'|| ch=='A' || ch=='e' || ch=='E' || ch=='i' || ch=='I' || ch=='o' || ch=='O' || ch=='u' || ch=='U')

{

printf("vowel");

}

else

{

printf("consonant");

}

}

else

{

printf("Please input a character from a to z.");

}

return 0;

}

B – B

Goam, a magician gives you a magic number, and you must count up to that number, starting at 1, saying “Abracadabra” each time. You will understand more if you look at the sample input output.

## Input

Input consists of a single integer N *(*1≤*N*≤100).

## Output

Output the entire wizard’s spell by counting from 11 to N, giving one number and “Abracadabra” per line.

**Sample 1**

| **Input** | **Output** |
| --- | --- |
| 5 | 1 Abracadabra  2 Abracadabra  3 Abracadabra  4 Abracadabra  5 Abracadabra |

**Sample 2**

| **Input** | **Output** |
| --- | --- |
| 10 | 1 Abracadabra  2 Abracadabra  3 Abracadabra  4 Abracadabra  5 Abracadabra  6 Abracadabra  7 Abracadabra  8 Abracadabra  9 Abracadabra  10 Abracadabra |

#include<stdio.h>

int main()

{

int n;

scanf("%d", &n);

for(int i=1; i<=n; i++)

{

printf("%d Abracadabra\n", i);

}

}

C – C

Ireland’s winters can be very bad. The temperatures sometimes dip to uncomfortable levels. Weather Service wants to find out exactly how bad the winter was. More specifically, they are interested in knowing the total number of days in which the temperature was below zero degree Celsius.

## Input

The input is composed of two lines. The first line contains a single positive integer n *(*1≤*n*≤100) that specifies the number of temperatures collected by the Weather Service. The second line contains n*n* temperatures, each separated by a single space. Each temperature is represented by an integer *t*  (−1000000≤*t*≤1000000)

## Output

You must print a single integer: the number of temperatures strictly less than zero.

**Sample 1**

| **Input** | **Output** |
| --- | --- |
| 3  5 -10 15 | 1 |

**Sample 2**

| **Input** | **Output** |
| --- | --- |
| 5  -14 -5 -39 -5 -7 | 5 |

#include<stdio.h>

int main()

{

int n, t[100], count=0;

scanf("%d", &n);

for(int i=1; i<=n; i++)

{

scanf("%d", &t[i]);

if(t[i]<0)

{

count++;

}

}

printf("%d", count);

return 0;

}

D – D

Hasan knew that you are a programmer. He is now going to test your math knowledge. He will give you **N** numbers of calculations. In each calculation you will be given two numbers **A** and **B**. You need to calculate the multiplication of these two numbers. And after all the calculations you have to tell the total sum of those calculated multiplications. Can you do it?

## Input

The first line of input contains a single integer N (1≤*N*≤100), which is the number of calculations you need to do.

The next N*N* lines describe two numbers. Each of these lines contains two real numbers A  (0<*A*≤100), which is the first number, and B (0<*B*≤100), which is the second number. All real numbers will be specified to exactly one decimal place.

## Output

Display the desired answer. Your answer will be considered correct if its absolute error does not exceed 10^{-3}.

**Sample 1**

| **Input** | **Output** |
| --- | --- |
| 5  1.0 12.0  0.7 5.2  0.9 10.7  0.5 20.4  0.2 30.0 | 41.470 |

#include<stdio.h>

int main()

{

int n;

scanf("%d", &n);

float a, b, c, sum=0.0;

for(int i=1; i<=n; i++)

{

scanf("%f %f", &a, &b);

c=a\*b;

sum=sum+c;

}

printf("%.3f", sum);

return 0;

}

E – E

You will be given three numbers **X, Y** and **N**. You need to print the integers from 11 to N. If any number is divisible by X then replace it with Fizz or, if they are divisible by Y, replace it with Buzz. If the number is divisible by both X and Y, you print FizzBuzz instead.

Check the samples for further clarification.

## Input

Input contains a single test case. Each test case contains three integers on a single line, X, Y and N (1≤*X*<*Y*≤*N*≤100).

## Output

Print integers from 11 to N in order, each on its own line, replacing the ones divisible by X with Fizz, the ones divisible by Y with Buzz and ones divisible by both X and Y with FizzBuzz.

**Sample 1**

| **Input** | **Output** |
| --- | --- |
| 2 3 7 | 1  Fizz  Buzz  Fizz  5  FizzBuzz  7 |

**Sample 2**

| **Input** | **Output** |
| --- | --- |
| 2 4 7 | 1  Fizz  3  FizzBuzz  5  Fizz  7 |

**Sample 3**

| **Input** | **Output** |
| --- | --- |
| 3 5 7 | 1  2  Fizz  4  Buzz  Fizz  7 |

#include<stdio.h>

int main()

{

int x, y, n;

scanf("%d %d %d", &x, &y, &n);

for(int i=1; i<=n; i++)

{

if(i%x==0 && i%y!=0)

{

printf("Fizz\n");

}

else if(i%y==0 && i%x!=0)

{

printf("Buzz\n");

}

else if(i%x==0 && i%y==0)

{

printf("FizzBuzz\n");

}

else

{

printf("%d\n", i);

}

}

return 0;

}

F – F

**Problem Statement**

You will be given three numbers *A*, *B* and *C* respectively. Determine whether you can construct a sequence **575** by using each of the phrases once, in any order.

**Constraints**

* *1≦A,B,C≦10*

**Input**

The input is given from Standard Input in the following format:

*A* *B* *C*

**Output**

If it is possible to construct the sequence by using each of the numbers once, print YES (case-sensitive). Otherwise, print NO.

**Sample 1**

| **Input** | **Output** |
| --- | --- |
| 5 5 7 | YES |

Using three numbers *5*, *5* and *7*, it is possible to construct *575*.

**Sample 2**

| **Input** | **Output** |
| --- | --- |
| 7 7 5 | NO |

#include<stdio.h>

int main()

{

int a, b, c;

scanf("%d %d %d", &a, &b, &c);

if(a==5 && b==5 && c==7)

{

printf("YES");

}

else if(a==5 && b==7 && c==5)

{

printf("YES");

}

else if(a==7 && b==5 && c==5)

{

printf("YES");

}

else

{

printf("NO");

}

return 0;

}

G – G

**Problem Statement**

You are given three integers *A*, *B* and *C*. Determine whether *C* is not less than *A* and not greater than *B*.

**Constraints**

* *-100≤A,B,C≤100*
* *A*, *B* and *C* are all integers.

**Input**

Input is given from Standard Input in the following format:

*A* *B* *C*

**Output**

If the condition is satisfied, print Yes; otherwise, print No.

**Sample 1**

| **Input** | **Output** |
| --- | --- |
| 1 3 2 | Yes |

*C=2* is not less than *A=1* and not greater than *B=3*, and thus the output should be Yes.

**Sample 2**

| **Input** | **Output** |
| --- | --- |
| 6 5 4 | No |

*C=4* is less than *A=6*, and thus the output should be No.

**Sample 3**

| **Input** | **Output** |
| --- | --- |
| 2 2 2 | Yes |

#include<stdio.h>

int main()

{

int a, b, c;

scanf("%d %d %d", &a, &b, &c);

if(c>=a && c<=b)

{

printf("Yes");

}

else

{

printf("No");

}

return 0;

}

H – H

**Problem Statement**

Subbir has two integers *A* and *B* . Output the value of *A + B*.

However, if *A + B* is *10* or greater, output error instead.

**Constraints**

* *A* and *B* are integers.
* *1 ≤ A, B ≤ 9*

**Input**

Input is given from Standard Input in the following format:

*A* *B*

**Output**

If *A + B* is *10* or greater, print the string error (case-sensitive); otherwise, print the value of *A + B*.

**Sample 1**

| **Input** | **Output** |
| --- | --- |
| 6 3 | 9 |

**Sample 2**

| **Input** | **Output** |
| --- | --- |
| 6 4 | error |

#include<stdio.h>

int main()

{

int a, b, c;

scanf("%d %d", &a, &b);

c=a+b;

if(c<10)

{

printf("%d", c);

}

else

{

printf("error");

}

return 0;

}

I – I

**Problem Statement**

In the vacation of Ramadan,Alex decided to arrange an Ifter party. He has to buy two watermelons for making juice

The store sells three kinds of watermelons for the price of *a*, *b* and *c* taka , respectively. Find the minimum total price of two different watermelons.

**Constraints**

* *1≤a,b,c≤10000*
* *a*, *b* and *c* are integers.

**Input**

Input is given from Standard Input in the following format:

*a* *b* *c*

**Output**

Print the minimum total price of two different watermelons.

**Sample 1**

| **Input** | **Output** |
| --- | --- |
| 700 600 780 | 1300 |

* Buying a *700*-taka watermelon and a *600*-taka watermelon costs *13000* taka.
* Buying a *700*-taka watermelon and a *780*-taka watermelon costs *1480* taka.
* Buying a *600*- taka watermelon and a *780*-taka watermelon costs *1380* taka.

The minimum among these is *13001300* taka.

**Sample 2**

| **Input** | **Output** |
| --- | --- |
| 10000 10000 10000 | 20000 |

Buying any two watermelons costs *2000020000* taka.

#include<stdio.h>

int main()

{

int a, b, c, sum1, sum2, sum3, min;

scanf("%d %d %d", &a, &b, &c);

sum1=a+b;

sum2=b+c;

sum3=a+c;

if(sum1<sum2)

{

if(sum1<sum3)

min=sum1;

else

min=sum3;

}

else

{

if(sum2<sum3)

min=sum2;

else

min=sum3;

}

printf("%d", min);

return 0;

}

J – J

**Problem Statement**

There are two types of contest in Artland . Avishek has decided to participate in Artland Beginner Contest (ABC) if his current rating is less than *1200*, and participate in Artland Regular Contest (ARC) otherwise.

You are given Avishek's current rating, *x*. Print ABC if Avishek will participate in ABC, and print ARC otherwise.

**Constraints**

* *1≦x≦3,000*
* *x* is an integer.

**Input**

The input is given from Standard Input in the following format:

*x*

**Output**

Print the answer.

**Sample 1**

| **Input** | **Output** |
| --- | --- |
| 1000 | ABC |

Avishek's current rating is less than *1200*, thus the output should be ABC.

**Sample 2**

| **Input** | **Output** |
| --- | --- |
| 2000 | ARC |

Avishek 's current rating is not less than *1200*, thus the output should be ARC.

#include<stdio.h>

int main()

{

int x;

scanf("%d", &x);

if(x>=1200)

{

printf("ARC");

}

else

{

printf("ABC");

}

return 0;

}