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# 1 Assignment Instructions

[Assignment Questions/Instructions Goes Here]

**Instruction 1. Download Program Assignments (LO5)**

1. **Each question you will get function fill your code there**
2. **Answer all questionQuestion**

**1.**

1. Write a program to convert the temperature centigrade from Fahrenheit?

[Hint, C=5/9\*(F-32)]

**Answer: void Temperature\_Changer()**

**{**

**double fah, cen;**

**cout<<"Enter Fahrenheit : ";**

**cin>>fah;**

**cen = (fah-32)\*5/9;**

**cout<<"Centigrade : "<<cen<<"\370"<<"C"<<endl;**

**}**

1. Write a program to calculate the area of a circle, given its radius?

**Answer: void Area\_of\_Circle()**

**{**

**float pi=3.142, r=12;**

**float area = pi\*(r\*r);**

**cout<<"Area of Circle : "<<area<<endl;**

**}**

1. Write a program to find armstrong number, from given array (100,....,500)?

**Answer: void Armstrong()**

**{**

**int f,s,t;**

**int arr[400];**

**int j=100;**

**for(int i=0; i<400; i++){**

**arr[i]=j;**

**j++;**

**}**

**int length = sizeof(arr)/sizeof(arr[0]);**

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

**t = arr[i]%10;**

**s = (arr[i]/10)%10;**

**f = arr[i]/100;**

**int total = pow(f,3)+pow(s,3)+pow(t,3);**

**if(arr[i]==total){**

**cout<<total<<endl;**

**cout<<"This number is an Armstrong Number."<<endl;**

**}**

**}}**

**2.**

The number SS is called the mean of two numbers R1R1 and R2R2 if SS is equal to (R1+R2)/2(R1+R2)/2. Mirko’s birthday present for Slavko was two integers R1R1 and R2R2. Slavko promptly calculated their mean which also happened to be an integer but then lost R2R2! Help Slavko restore R2R2.

## Input

The first and only line of input contains two integers R1R1 and SS, both between −1000−1000 and 10001000.

## Output

Output R2R2 on a single line.

**Sample Input 1 Sample Output 1**

11 15 19

**Sample Input 2 Sample Output 2**

4 3

2

**Answer: void R2()**

**{**

**int ss, r1, r2;**

**cout<<"Enter r1 and mean : ";**

**cin>>r1>>ss;**

**if(((r1>-1000)&&(r1<1000))&&((ss>-1000)&&(ss<1000))){**

**r2=(2\*ss)-r1;**

**cout<<"The value of R2 : "<<r2;**

**}**

**else{**

**while((r1<-1000)||(r1>1000)||(ss<-1000)||(ss>1000)){**

**cout<<"Enter r1 and mean values only between -1000 and 1000 : ";**

**cin>>r1>>ss;**

**r2=(2\*ss)-r1;**

**cout<<"The value of R2 : "<<r2;**

**}**

**} }}**

Write a program that will check Filip’s answers.

## Input

The first and only line of input contains two three-digit numbers, A and B. A and B will not be equal and will not contain any zeroes.

## Output

The first and only line of output should contain the larger of the numbers in the input, compared as described in the task. The number should be written reversed, to display to Filip how he should read it.

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| **Sample Input 1** | **Sample Output 1** |
| **734 893** | **437** |
|  |  |
| **Sample Input 2** | **Sample Output 2** |
| **221 231** | **132** |
|  |  |
| **Sample Input 3** | **Sample Output 3** |
| **839 237 938** | |

**Answer:**

**void Filip()**

**{**

**int A,B;**

**cout<<"Enter A and B : ";**

**cin>>A>>B;**

**while((A==B)||(A==0)||(B==0)){**

**cout<<"Enter A and B which values are not the same and not equal to zero : ";**

**cin>>A>>B;**

**}**

**if((A!=B)&&(A!=0)&&(B!=0)){**

**stringstream ss, ss1;**

**ss<<A;**

**ss1<<B;**

**string st, st1;**

**ss>>st;**

**ss1>>st1;**

**reverse(st.begin(), st.end());**

**ss.clear();**

**ss<<st;**

**ss>>A;**

**reverse(st1.begin(), st1.end());**

**ss1.clear();**

**ss1<<st1;**

**ss1>>B;**

**if(A>B){**

**cout<<A<<endl;**

**}**

**else if(B>A){**

**cout<<B<<endl;**

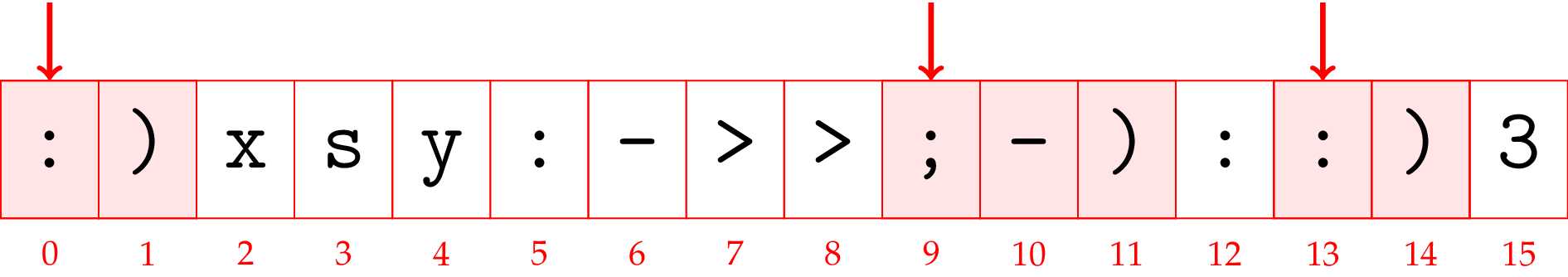
**}**

**}}**

**4.**

*Siffermaskinen i Lund* (SMIL, “The Number Machine in Lund”) was a first-generation computer built at Lund University, in operation from 1956 to 1970. It was based on the computer architecture developed by John von Neumann at the Institute of Advanced Studies at Princeton.

Your task is to find the smiles in the memory of SMIL. A *smile* is sequence of symbols of the form “:)”, “;)”, “:-)”, or “;-)”.



Scoring

You receive 1 point for every smile you can find. There are at most 100 smiles.

Your answer is judged *wrong* if it is empty or contains an address without a smile.

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| **Sample Input 1** | **Sample Output 1** |
| **:)xsy:->>;-)::)3** | **0**  **9**  **13** |
| **Sample Input 2** | **Sample Output 2** |
| **:-):);-):)** | **0**  **3**  **5**  **8** |
| **Sample Input 3** | **Sample Output 3** |
| **::))(:** | **1** |
|  |  |
| **Sample Input 4** | **Sample Output 4** |
| **):):** | **1** |

**Answer:**

**void Smil()**

**{**

**//Write your code here**

**}**

**5.**

According to Wikipedia, FizzBuzz is a group word game for children to teach them about division. This may or may not be true, but this question is generally used to torture screen young computer science graduates during programming interviews.

Basically, this is how it works: you print the integers from 1 to N, replacing any of them divisible by X with Fizz or, if they are divisible by Y, 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 1 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.

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

**Answer:**

**void FizzBuzz()**

**{**

**int x,y,n;**

**cin>>x>>y>>n;**

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

**if ((i%x==0)&&(i%y==0)){**

**cout<<"FizzBuzz"<<endl;**

**}**

**else if(i%x==0){**

**cout<<"Fizz"<<endl;**

**}**

**else if (i%y==0){**

**cout<<"Buzz"<<endl;**

**}**

**else{**

**cout<<i<<endl;**

**}**

**}}**

**6.**

You enjoy your new job as a teacher of young children. It’s fun to see them learning to count, recognize letters, draw, and interact with the world.

One common problem you’ve noticed is that children often forget numbers when counting. For example, early on they might count “one, two, three, five, six.” You have to remind them about that “four” that they didn’t say. And as they get more proficient and clever, they may use the “quick” way of counting: “one, two, skip a few, ninety-nine, one hundred!” Please write a program that can help you (and your students) identify the missing numbers when they are counting.

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| **Sample Input 1 Sample Output 1**  **9**  **2**  **4**  **5** 1   1. 3 2. 6 3. 12   **10**  **11**  **13** | |
| **Sample Input 2** | **Sample Output 2** |
| **5**  **1**  **2**  **3**  **4**  **5** | **good job** |

**Answer: void Missing\_number()**

**{**

**int size;**

**cout<<"How many num : ";**

**cin>>size;**

**int arr[size];**

**for(int i=0; i<size; i++){**

**cin>>arr[i];**

**}**

**int length= sizeof(arr)/sizeof(arr[0]);**

**int j=0;**

**for (int i=arr[0]; i<=arr[length-1]; i++) {**

**if (arr[j]==i) {**

**j++;**

**}**

**else {**

**cout<<i<<endl;**

**}**

**}}**

**7.**

Yraglac recently decided to try out Soylent, a meal replacement drink designed to meet all nutritional requirements for an average adult. Soylent not only tastes great but is also low-cost, which is important for Yraglac as he is currently on a budget. Each bottle provides

400

400 calories, so it is recommended that an individual should consume

5

5 bottles a day for

2000

2000 total calories. However, Yraglac is wondering how many bottles he should consume if his daily calorie requirement is not the same as an average adult. He can only consume an integer number of bottles, and needs to consume at least his daily calorie requirement.

|  |  |
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| **Sample Input 1** | **Sample Output 1** |
| **2**  **2000**  **1600** | **5**  **4** |

**Answer: void Soylent()**

**{**

**int bot = 400;**

**int c;**

**cin>>c;**

**while(c>0){**

**int need;**

**cin>>need;**

**if(need%400==0){**

**need= need/400;**

**}**

**else{**

**need = 1+need/400;**

**}**

**cout<<need<<endl;**

**c--;**

**}}**

**8.**

Little Mirko wrote into his math notebook an equation containing three positive integers, the equals sign and one of the four basic arithmetic operations (addition, subtraction, multiplication and division).

During another class, his friend Slavko erased the equals sign and the operations from

Mirko’s notebook. Help Mirko by reconstructing the equation from the three integers

## Input

The first line of input contains three integers less than 100, separated by spaces. The input data will guarantee that a solution, although not necessarily unique, will always exist.

## Output

On a single line, output a valid equation containing the three integers (in the same order), an equals sign and one of the four operations. If there are multiple solutions, output any of them.

|  |  |
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| **Sample Input 1** | **Sample Output 1** |
| **5 3 8** | **5+3=8** |
|  |  |
| **Sample Input 2** | **Sample Output 2** |
| **5 15 3** | **5=15/3** |

**Answer:**

**void Tri()**

**{**

**int f,s,t;**

**cin>>f>>s>>t;**

**if(f==s+t){**

**cout<<f<<"="<<s<<"+"<<t;**

**}**

**else if(f==s-t){**

**cout<<f<<"="<<s<<"-"<<t;**

**}**

**else if(f==s\*t){**

**cout<<f<<"="<<s<<"\*"<<t;**

**}**

**else if(f==s/t){**

**cout<<f<<"="<<s<<"/"<<t;**

**}**

**else if(f+s==t){**

**cout<<f<<"+"<<s<<"="<<t;**

**}**

**else if(f-s==t){**

**cout<<f<<"-"<<s<<"="<<t;**

**}**

**else if(f\*s==t){**

**cout<<f<<"\*"<<s<<"="<<t;**

**}**

**else if(f/s==t){**

**cout<<f<<"/"<<s<<"="<<t;**

**}}**

**2 [Get Started right away]**

# 3 References