**Exercise: For-loop**

Tasks for exercising from the course ["C - Essentials" @ SoftUni](https://softuni.bg/trainings/2940/c-essentials-march-2020).

Test your solutions here: <https://judge.softuni.bg/Contests/Practice/Index/2280#0>

## Numbers from 1 to 100

Print the numbers from 1 to 100 each on a new line.

### Example

|  |  |
| --- | --- |
| **Input** | **Output** |
|  | 1  2  3  …  98  99  100 |

## Latin Letters

Print all the lowercase letters: a, b, c… z.

## Sum Numbers

Read count of numbers n-then read **n integers and sum them**.

**Input**

* First line is n.
* On each **n,** line an integer.

**Output**

* Print the sum.

### Examples:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |  | **Input** | **Output** |  | **Input** | **Output** |  | **Input** | **Output** |
| 2  10  20 | 30 | 3  -10  -20  -30 | -60 | 4  45  -20  7  11 | 43 | 1  999 | 999 | 0 | 0 |

## Number Sequence

Read count of numbers n-then read **n integers and print the maximum and the minimum number.**

### Examples:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |
| 5  10  20  304  0  50 | Max number: 304  Min number: 0 | 6  250  5  2  0  100  1000 | Max number: 1000  Min number: 0 |

## Left and Right Sum

Read **2\***n integers, check if the sum of the first n **numbers,** is equal to the sum of the second **n** numbers, if they are print "Yes, sum = "+ **sum**, otherwise print "No, diff = "+ **difference**. The difference must be a positive number.

### Examples:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Input** | **Output** | **Hint** |  | **Input** | **Output** | **Hint** |
| 2  10  90  60  40 | Yes, sum = 100 | 10+90 = 60+40 = 100 | 2  90  9  50  50 | No, diff = 1 | 90+9 ≠ 50+50  Difference = |99-100| = 1 |

## Odd Even Sum

Read n-integer and check if the sum of the odd numbers is equal to the sum of the even numbers. If so print: "Yes" and on a new line "Sum = " + **sum**, otherwise print: "No" and on a new line "Diff = " + the difference as a positive number.

### Examples:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Input** | **Output** | **Hint** |  | **Input** | **Output** | **Hint** |  | **Input** | **Output** | **Hint** |
| 4  10  50  60  20 | Yes  Sum = 70 | 10+60 = 50+20 = 70 | 4  3  5  1  -2 | No  Diff = 1 | 3+1 ≠ 5-2  Diff = |4-3| = 1 | 3  5  8  1 | No  Diff = 2 | 5+1 ≠ 8  Diff = |6-8| = 2 |

## Vowels Sum

Read the text and print the sum of the vowels **according to the table below**:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Letter | a | e | i | o | u |
| Value | 1 | 2 | 3 | 4 | 5 |

### Examples

|  |  |  |
| --- | --- | --- |
| **Input** | **Output** | **Hint** |
| hello | 6 | e + o = 2 + 4 = 6 |
| hi | 3 | i = 3 |
| bamboo | 9 | a + o + o = 1 + 4 + 4 = 9 |
| beer | 4 | e + e = 2 + 2 = 4 |

# Example of Examination Problem

## Clever Lily

Lily is **N years old**. For each one of her birthdays she receives a gift. For the odd birthdays (**1, 3, 5...n**) she gets a toy, for each even (**2, 4, 6...n**) gets money. For the **second** birthday she receives 10.00 lv., **the amount is increased** by 10.00lv. **for each subsequent even birthday** (2 -> 10, 4 -> 20, 6 -> 30 ..., etc.). Over the years, Lily has been secretly saving money. Lily's brother, in the **years she receives money, takes 1.00 leva each**. Lilly sold toys received over the years, each for **P** leva and added the amount to the money saved. With money she wanted to buy a washing machine for **X** leva. Write a program to calculate how much money she has raised and whether she can buy a washing machine.

### Input

Read three lines of input:

* **Lily age** – **integer [1...77]**
* **Washing machine price** – floating point number **[1.00...10 000.00]**
* **Toy price** – **integer [0...40]**

### Output

Single line:

* If Lily's money is sufficient:
  + **"**Yes! {M}**"** – where **M** is the money left
* Otherwise:
  + **"No! {М}"** – where **M** is the money needed
* The numbers should be formatted to the second digit after the decimal point.

### Examples:

|  |  |  |
| --- | --- | --- |
| **Input** | **Output** | **Hints** |
| 10  170.00  6 | Yes! 5.00 | **Money saved** -> 10 + 20 + 30 + 40 + 50 = **150lv**. Toys sold **5 each cost 6 lv** = **30lv**.  **Her brother took 5 times 1lv.** = **5lv**. **Remaining** -> 150 + 30 – 5 = **175lv**.  **175 >= 170** (Money are enough) **remaining money** 175-170 = **5 lv.** |
| 21  1570.98  3 | No! 997.98 |  |

## Divide Without Reminder

Read n integers [**1**…**1000**]. From those numbersp1 **are divisible to 2 without reminder**, p2 **are divisible to 3 without reminder**, p3 **are divisible to 4 without reminder**. Calculate the percentage of p1, p2 и p3.

**Example**: n = **10** numbers are: 680, 2, 600, 200, 800, 799, 199, 46, 128, 65.

|  |  |  |  |
| --- | --- | --- | --- |
| **Division without reminder** | **Numbers** | **Count** | **Percent** |
| 2 | 680, 2, 600, 200, 800, 46, 128 | 7 | p1 = 7.0 / 10 \* 100 = **70.00**% |
| 3 | 600 | 1 | p2 = 1 / 10 \* 100 = **10.00**% |
| 4 | 680, 600, 200, 800, 128 | 5 | p3 = 5 / 10 \* 100 = **50.00**% |

### Input

* The count of numbers - n (1 ≤ n ≤ 1000)
* Single integer on the **next** **n,** lines

### Output

Three lines, numbers must be formatted to the second digit after the decimal point 25.00%, 66.67%, 57.14%.

* First line – numbers **divisible** by **2**
* Second line - numbers **divisible** by **3**
* Third line - numbers **divisible** by **4**

### Примерен вход и изход

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Вход** | **Изход** |  | **Вход** | **Изход** |
| **10**  680  2  600  200  800  799  199  46  128  65 | 70.00%  10.00%  50.00% | **3**  3  6  9 | 33.33%  100.00%  0.00% |