Exercise: Loops

Test your tasks in the Judge system: https://judge.softuni.org/Contests/4412

I. For Loop

1. Power of Number

Write a program to calculate number raising to a certain power:

- Reads an **integer number n** from the console
- Reads an **integer number p** which represents **power** from the console
- Print the result of **n to the power of p**

Note: Don't use **Math.Pow()**, use loops

Example

Input	Output
2 5	32

Input	Output
3 4	81

Input	Output
2 3	8

2. Multiplication Table

Write a program that prints a **multiplication table**:

- Reads an **integer number n** from the console
- Print a **multiplication table** of size 10 for given integer **n** in the following format:

    "{n} x {i} = {result}" for each **i** in the range [1…10]

Example

Input	Output
2	2 x 1 = 2 2 x 2 = 4 2 x 3 = 6 2 x 4 = 8 2 x 5 = 10 2 x 6 = 12 2 x 7 = 14 2 x 8 = 16 2 x 9 = 18 2 x 10 = 20

Input	Output
3	3 x 1 = 3 3 x 2 = 6 3 x 3 = 9 3 x 4 = 12 3 x 5 = 15 3 x 6 = 18 3 x 7 = 21 3 x 8 = 24 3 x 9 = 27 3 x 10 = 30

Input	Output
5	5 x 1 = 5 5 x 2 = 10 5 x 3 = 15 5 x 4 = 20 5 x 5 = 25 5 x 6 = 30 5 x 7 = 35 5 x 8 = 40 5 x 9 = 45 5 x 10 = 50

Follow us:

3. Biggest Number

Write a program to find **the biggest** among given **n** numbers:

- Read an integer number **n** (the **amount** of input numbers) and **n** integer numbers from the console
- Find and print the **biggest** number

Example

Input	Output
3	90
40	
90	
50	

Input	Output
4	-3
-40	
-3	
-90	
-50	

Input	Output
2	7
1	
7	

4. Vowel Sum

Write a program to **sum N vowels**, according to the table below:

- Read an integer number **N**: the count of characters
- Read **N characters** and for each vowel character adds its value from the table to the result

character	a	e	i	o	u
value	1	2	3	4	5

Example

Input	Output
2	3
a	
e	

Input	Output
3	8
i	
x	
u	

Input	Output
3	5
o	
g	
a	

5. Division to 2, 3 and 4

Write a program to find **statistics about division to 2, 3 and 4**:

- Read an **integer number N** and **N** integers from the console
- Find in **percentages** how many of these integers can divide without a remainder to numbers **2**, **3** and **4**
- Print the percentages, formatted to the **second** decimal digit:
  - On the first line print **percent** of the numbers that are **divisible by 2**

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- On the first line print **percent** of the numbers that are **divisible by 3**
- On the first line print **percent** of the numbers that are **divisible by 4**

Example

Input	Output
3	33.33%
3	100.00%
6	0.00%
9	

Input	Output
3	66.67%
4	66.67%
6	33.33%
3	

II. While Loop

6. Special Number

Write a program to check if given number is **special**:

- **Special numbers are divisible by all of their digits without remainder**
- Reads an integer number and check whether it is a special number
- If the number **IS** special print: **"{num} is special"**
- If the number is **NOT** special print: **"{num} is not special"**

Note: There will not be numbers with digit 0 in them.

Example

Input	Output
23	23 is not special

Input	Output
212	212 is special

7. Special Bonus

Write a program to apply a **20% bonus** for certain number:

- Reads **an integer number** from the console: the "**stop number**"
- Keep **reading integers** until it finds the **stop number**
- When the **stop number** is found, increase the value of the **previous** number **before it** with **20%** and print it

Example

Input	Output
25	36
20	

Input	Output
14	12
6	

30 25		10 14	

8. Account Balance

Write a program to calculate an **account balance**:

- Read a sequence of **incomes** / **expenses**, until "**End**" is read
- Add the money to the balance (starting form 0)
- Print "**Increase: {money}**" or "**Decrease: {money}**", where value is formatted to the **second** decimal digit
- Finally, print the **account balance,** formatted to the **second** decimal digit in the following format: "**Balance: {account balance}**"

Example

Input	Output
500 15.5 -80.35 End	Increase: 500.00 Increase: 15.50 Decrease: 80.35 Balance: 435.15

Input	Output
200 300 -100 End	Increase: 200.00 Increase: 300.00 Decrease: 100.00 Balance: 400.00