# Java Basics Tutorial

## Exercises for Part 7: For Loops

Repeating
Blocks of Code

Free Code Lessons

SoftUni

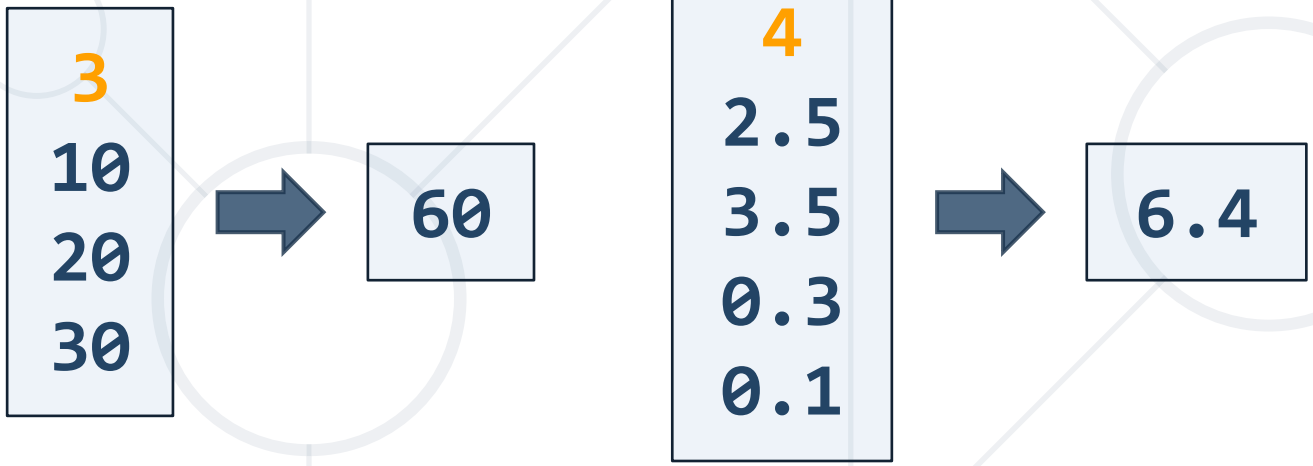
# Problem: First N Numbers Sum

- Write a program, which **sums the numbers 1…n**:
  - Reads number **n** from the console
  - Sums all numbers from **1** to **n**
  - Prints the **sum** on the console as shown below:

| | | |
|---|---|---|
| 5 | → | 1+2+3+4+5=15 |
| 6 | → | 1+2+3+4+5+6=21 |

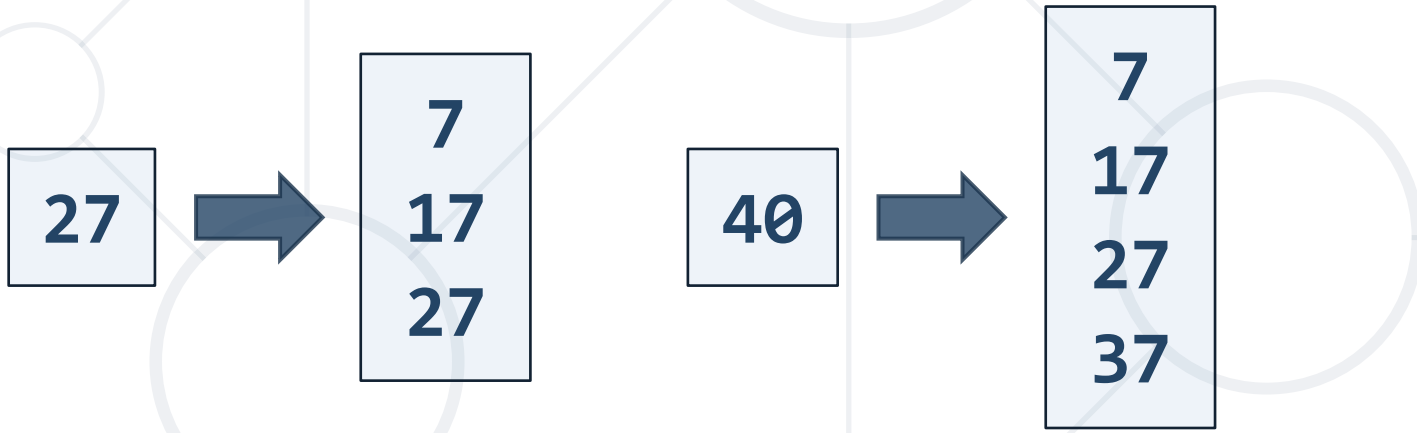
# Problem: Sum N Numbers

- Write a program to **sum given N numbers**:
  - Read **n** – the count of numbers to sum
  - Read **n floating-point numbers** and print their **sum**



# Problem: Numbers Ending with 7

- Write a program to print **numbers ending in 7** in given range:
  - Reads a number **n**
  - Prints all numbers from **7** to **n**, ending with 7



# Problem: Exam Countdown

- Write a program to print a **countdown to an exam** (see below):
  - Read an integer **d**: the count of days before an exam
  - For each day **d…1** print: "**{currentDay} days before the exam**"
  - At the end print: "**The exam has come**"

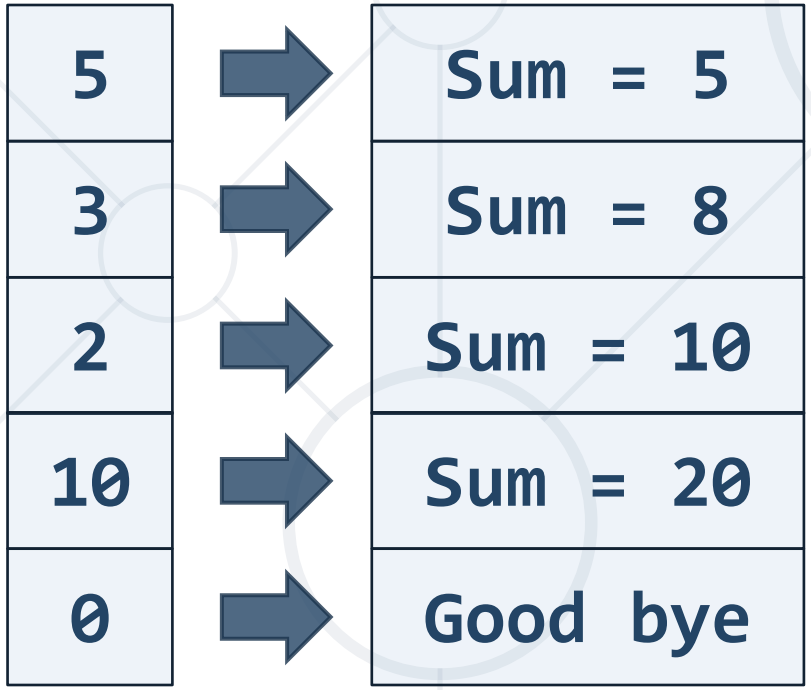

```
3 days before the exam
2 days before the exam
1 days before the exam
The exam has come
```

# Problem: Latin Letters

- Write a program to print the **Latin letters in certain range**:
  - Read **2 letters**, each on separate line
  - Print all letters in the specified range **inclusively**


# Problem: Sum Numbers Until Stopped

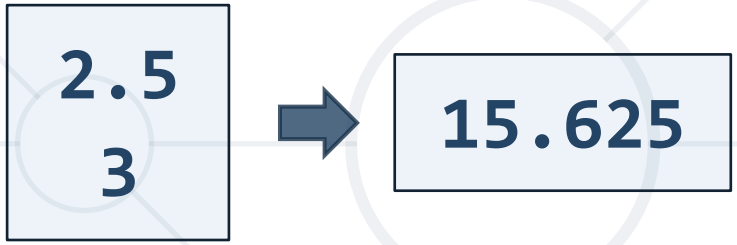
- Write a program to continuously **read integers** from the console and **print their sum** until **0** is entered




```
Run:  Main
"C:\Program Files\Java\jdk-12.0.1\bin\java.exe"
5
Sum = 5
3
Sum = 8
2
Sum = 10
10
Sum = 20
0
Good bye
```

# Problem: Power of Number

- Write a program to calculate **n^p**:
  - Read **n** (the number) and **p** (the power)
  - Print the result of **n** to the power of **p**



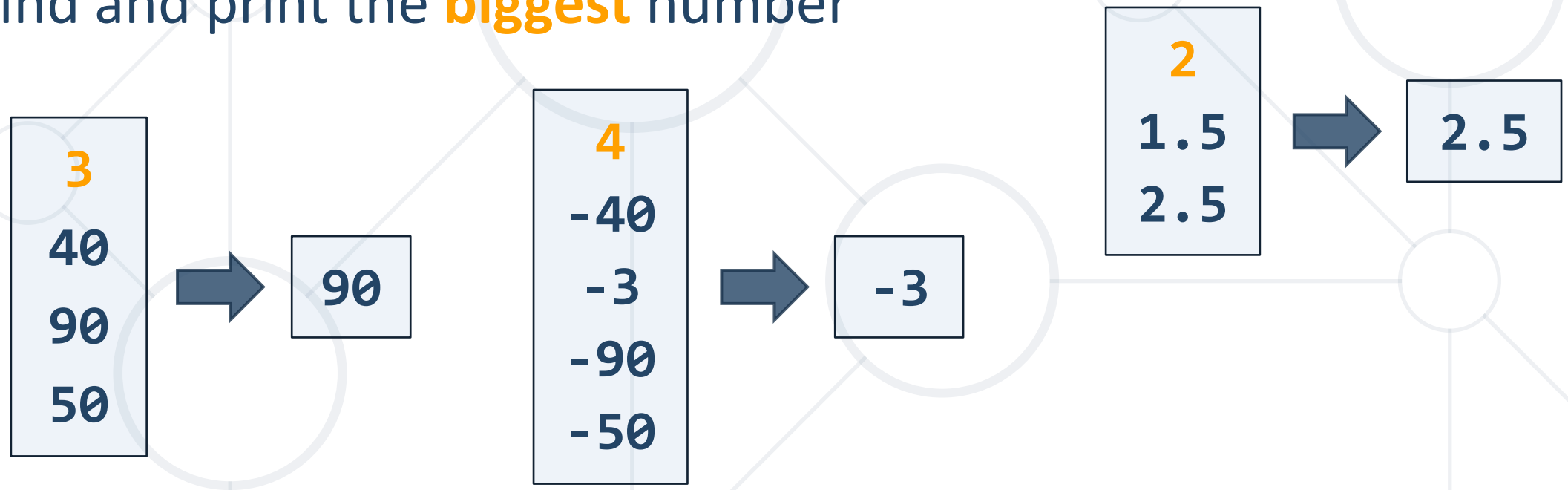

- Don't use **Math.pow()**, use loops

# Problem: Multiplication Table

- Print a **multiplication table** of size 10 for given integer `n`:
  - Read an integer `n`
  - Print `n`'s multiples in the format "`{n} x {i} = {result}`" for each `i` in the range [1…10]

# Problem: Biggest Number

- Write a program to find **the biggest** among given **n** numbers:
  - Read **n** (the **amount** of input numbers) and **n** numbers
  - Find and print the **biggest** number



# Problem: Min and Max Number

- Write a program to find the **biggest** and the **smallest** number
  - Read integer **n**: the count of numbers to be read
  - Read **n** integer numbers
  - Find and print the **min** and the **max** number

```
5
10
20
304
10
50
```

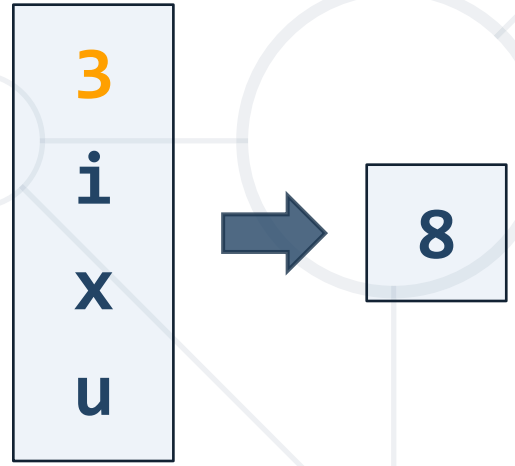
```
Min number: 10
Max number: 304
```

# Problem: Vowel Sum

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

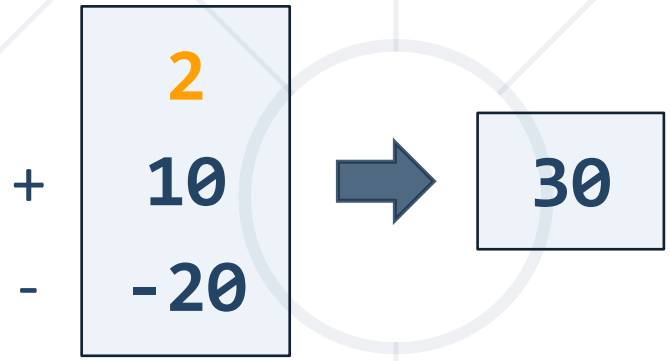
| character | a | e | i | o | u |
|---|---|---|---|---|---|
| value | 1 | 2 | 3 | 4 | 5 |

- Read and integer **n**: the count of characters
- Read **n characters** and for each vowel adds its value to the result




# Problem: Zig Zag Sum

- Write a program to calculate the **zig-zag sum** for given numbers:
  - Read a number **n**, followed by **n** integers
  - For every **odd** line **add** the number to the result
  - For every **even** line **subtract** the number from the result




# Problem: Division to 2, 3 and 4

- Write a program to find **statistics about division to 2, 3 and 4**:
  - Read a count **n** and **n** integers
  - Find in **percentages** how many of these integers can divide without a remainder to **2**, **3** and **4**
  - Print the percentages, formatted to the **second** decimal digit

```
3
3
6
9
```

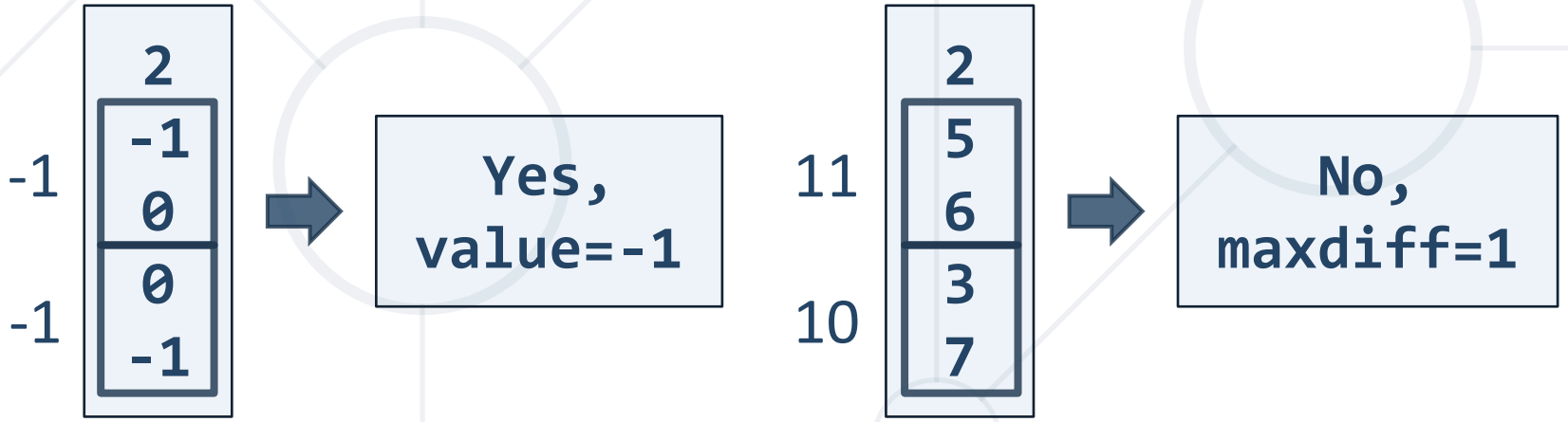
```
33.33%
100.00%
0.00%
```

```
3
4
6
3
```

```
66.67%
66.67%
33.33%
```

# Problem: Equal Pairs

- Write a program to **check the sums of pairs for differences**:
  - Read an integer `n` (n > 1) and `n` pairs of numbers
  - Print "`Yes, value={sum}`", if the sum of all pairs is the same
  - Otherwise, print "`No, maxdiff={diff}`", where `diff` is the maximal difference in the sum between two sequential pairs



# Next Steps

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- Join the SoftUni "Learn To Code" Community

https://softuni.org


- Access the Free Coding Lessons
- Get Help from the Mentors
- Meet the Other Learners