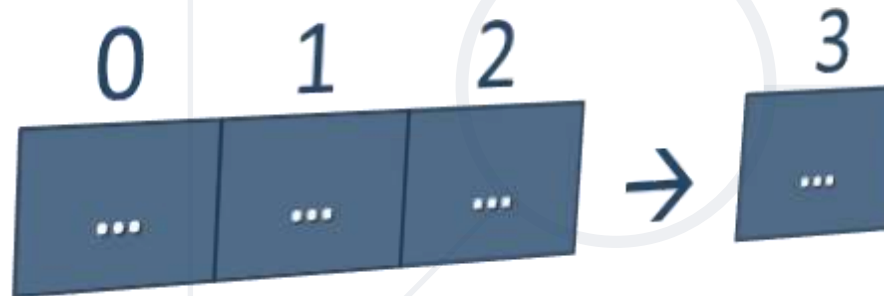


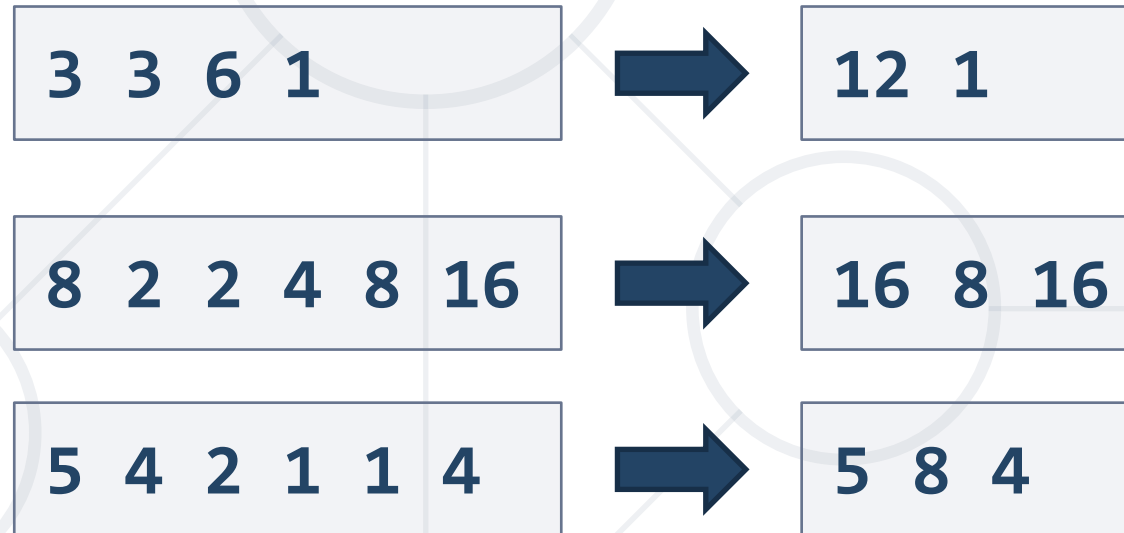
# Java Foundations

## Exercises for: Lists, `List<T>`, `ArrayList<T>`



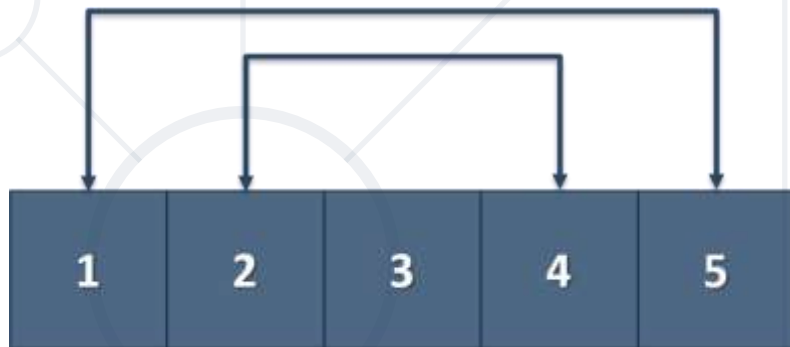
# Problem: Sum Adjacent Equal Numbers

- Write a program to sum all adjacent equal numbers in a list of decimal numbers, starting from left to right
- Examples:

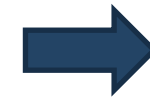


# Problem: Gauss' Trick

- Write a program that **sums all numbers in a list** in the following order:
  - $\text{first} + \text{last}$ ,  $\text{first} + 1 + \text{last} - 1$ ,  $\text{first} + 2 + \text{last} - 2$ , ...  $\text{first} + n$ ,  $\text{last} - n$
- Examples:



1 2 3 4 5



6 6 3

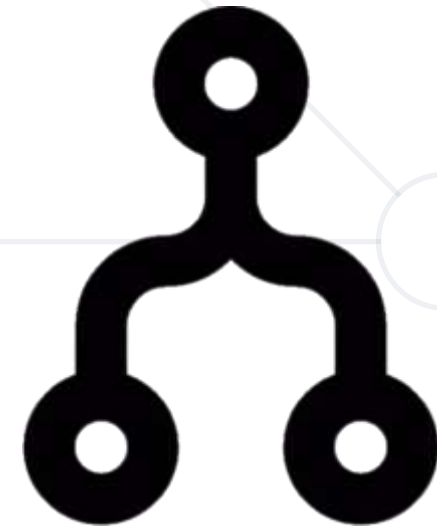
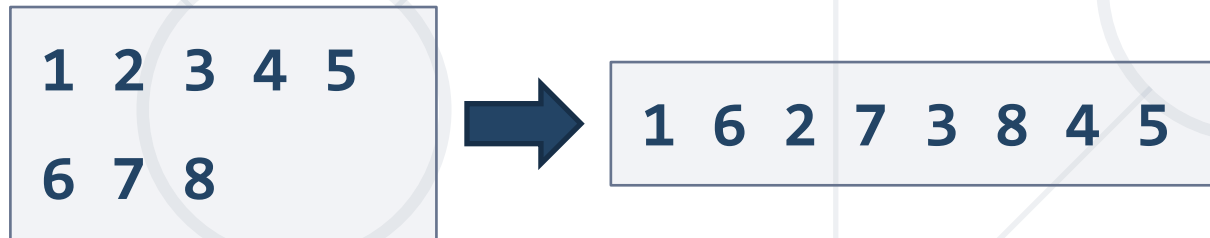
1 2 3 4



5 5

# Problem: Merging Lists

- You receive two lists with numbers. Print a result list which contains the numbers from both lists
  - If the length of the two lists is not equal, just add the remaining elements at the end of the list
  - `list1[0]`, `list2[0]`, `list1[1]`, `list2[1]`, ...



# Problem: List of Products

- Read a number **n** and **n** lines of products. Print a numbered list of all the products ordered by name
- Examples:

```
4
Potatoes
Tomatoes
Onions
Apples
```

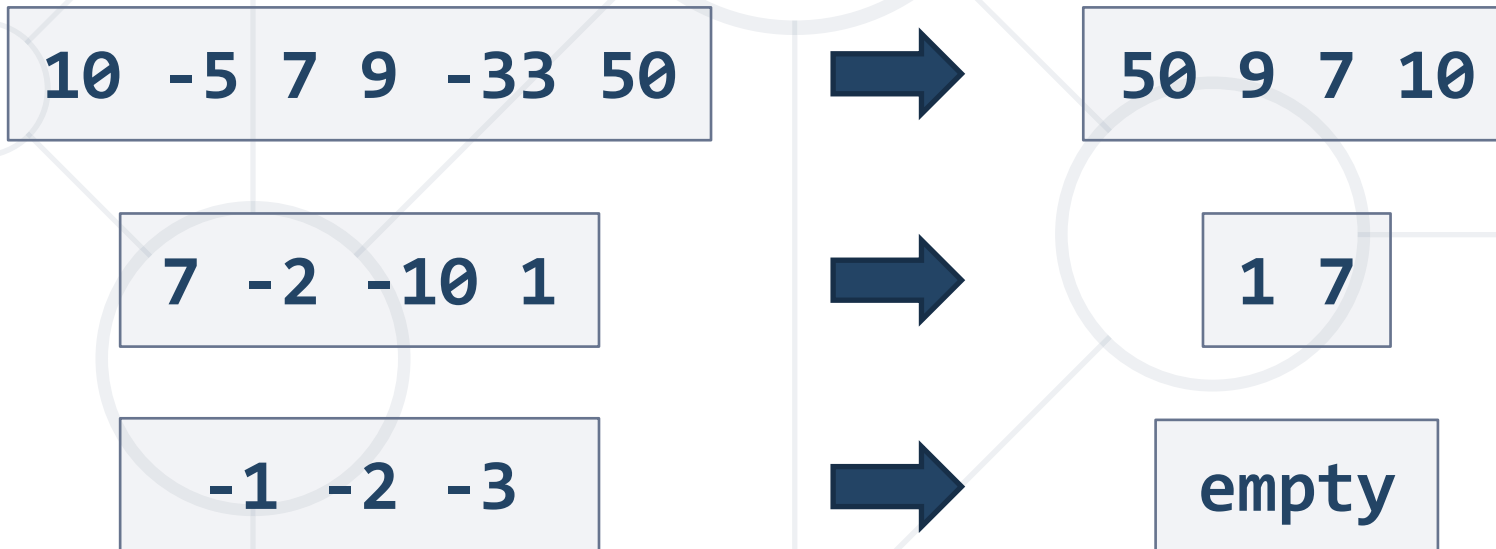


```
1.Apples
2.Onions
3.Potatoes
4.Tomatoes
```



# Problem: Remove Negatives and Reverse

- Read a list of integers, remove all negative numbers from it
  - Print the remaining elements in reversed order
  - In case of no elements left in the list, print "empty"



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