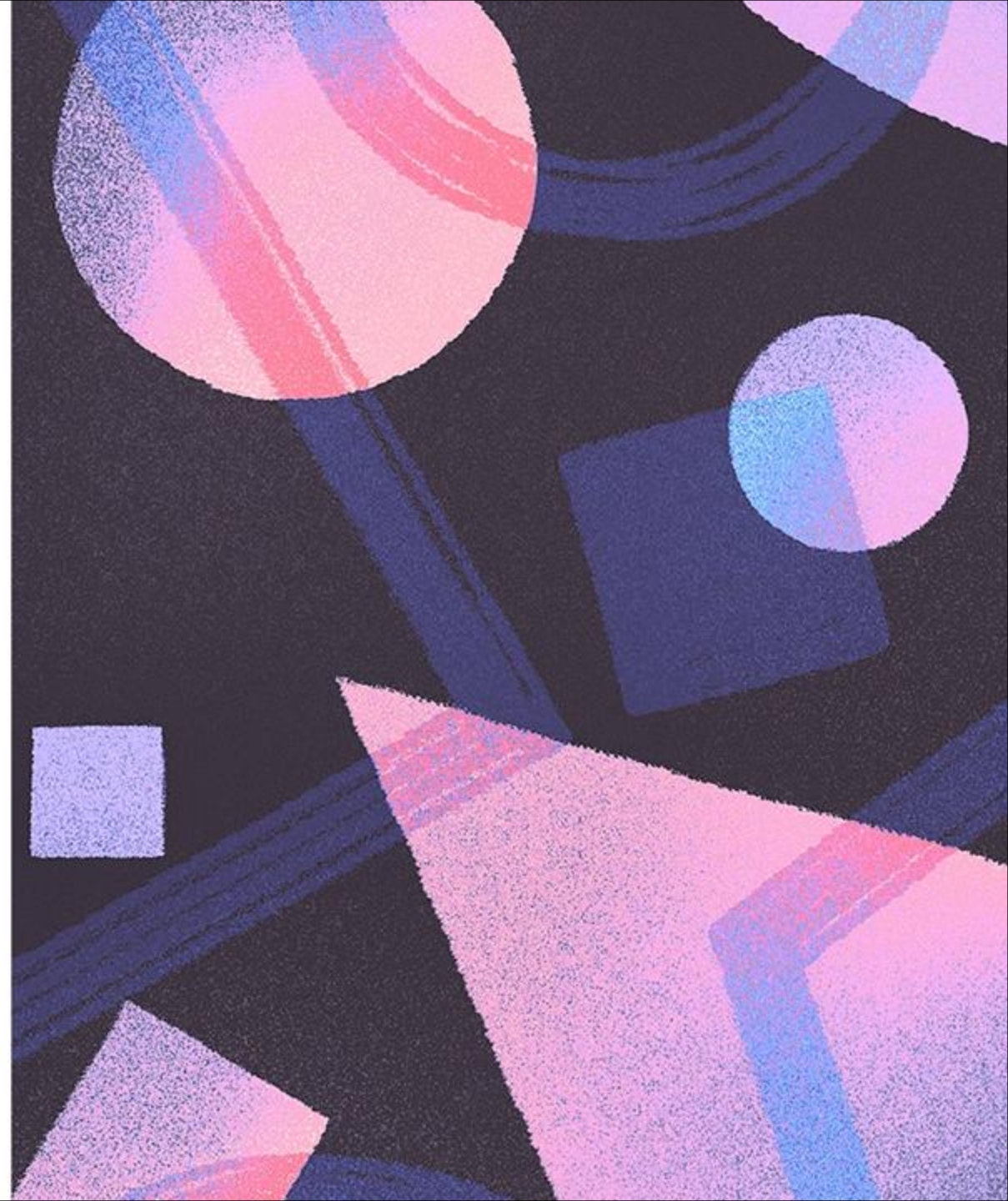


# Data Structures Lab

## Lecture 1

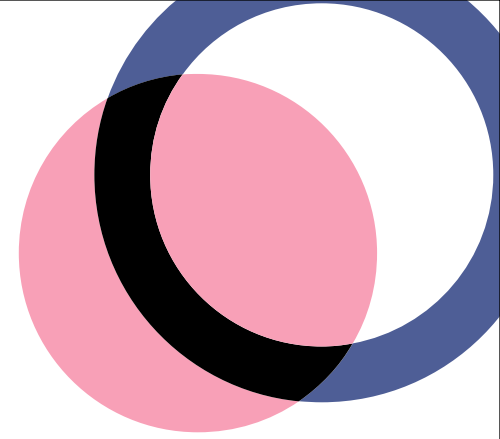


Arrays in Java



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## CONTENT



### 01

#### PART

What is an Array?

### 02

#### PART

Features of Arrays

### 03

#### PART

Advantages

### 04

#### PART

Limitations

### 05

#### PART

Examples

# 01: What is an Array?

- An array is a collection of elements of the same type stored in contiguous memory.
- Allows access by index.
- Example: `int[] numbers = new int[5];`

# 02: Features of Arrays

- Fixed size (defined at creation).
- Elements are of the same type.
- Index starts at 0.
- Supports iteration using loops.

# 03: Advantages

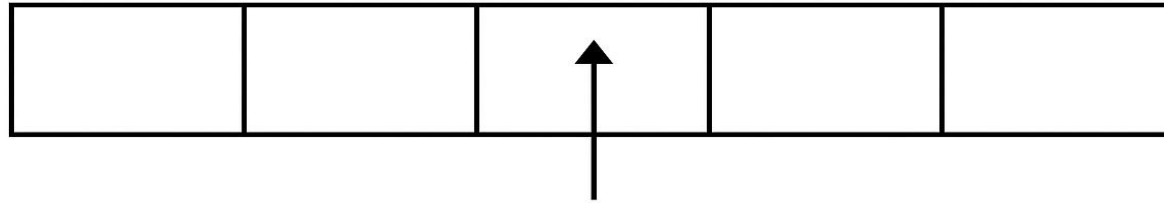
- Fast access to elements by index.
- Simple structure for storing multiple elements.
- Useful when the number of elements is known.

# 04: Limitations

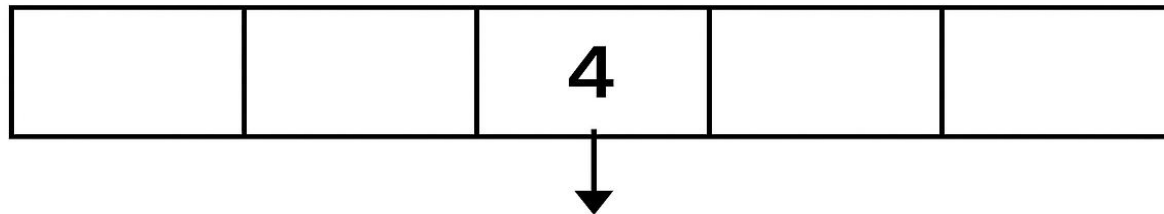
- Fixed size → cannot grow or shrink dynamically.
- Inserting or deleting elements in the middle requires shifting → inefficient.
- Only stores homogeneous data types.

# 05: Examples

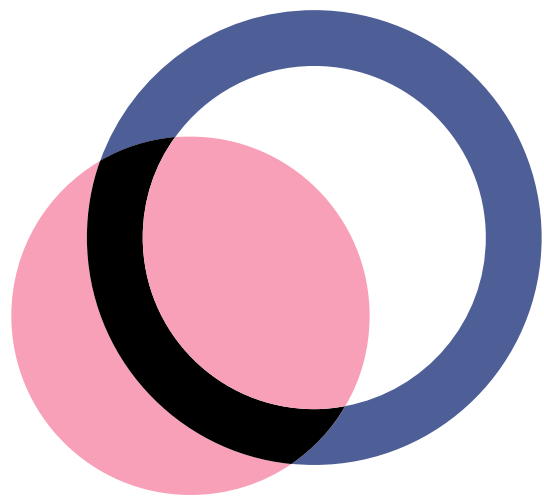
Insertion into Array



Deletion from Array







**THANK  
YOU**

