

8. Arrays and Strings

1) One-Dimensional and Multidimensional Arrays

Answer: Array: is an group of elements which can store multiple value/object in a single variable with same data types.

: Store = length - 1 (size - 1) size =5 (0 to 4)

: Index start from 0

: If you store upon 5th index then occur exception
(Array Index Out Of Bound Exception)

: There are mainly 2types

1) One dimensional: [] : at a time only one loop will be use

2) Two or more dimensional: [][] or [][][] : loop with in loop will be used

3) Jagged Array or Ragged Array: Array with in Array

: Each row having different column i.e.

: Its same like 2D array but row must be

assigned but again column will be empty

Example:

1 2 3 4 5

1 2 3

1 2 3 4

2) String Handling in Java: String Class, String Buffer, String Builder

Answer:

1. String Class

The `String` class is used to create and manipulate **immutable strings**. Once a `String` object is created, it cannot be modified.

2. String Buffer Class

The `String Buffer` class is used to create and manipulate **mutable strings** in a **thread-safe** manner.

3. String Builder Class

The `String Builder` class is similar to `String Buffer` but is **not thread-safe**. It offers better performance for single-threaded applications.

3) Array of Objects

Answer: In Java, an **array of objects** is a collection of references to objects. Each element in the array can store a reference to an object of the specified type. This is useful when you need to manage multiple objects in a structured way.

- 1) You declare an array of objects similar to arrays of primitive types.
- 2) Create the array using the `new` keyword, specifying the size.

4) String Methods (length, charAt, substring, etc.)

Answer: The `String` class in Java provides numerous methods to manipulate and analyze strings.

Length: Returns the number of characters in the string.

charAt: Returns the character at the specified index.

Substring(int beginIndex): Returns a substring starting from the specified index to the end.

Substring(int beginIndex , int endIndex): Returns a substring starting from `beginIndex` to `endIndex - 1`.

