### **Arrays in java Assignment**

### **1. What is the default value of an Array for different data types?**

* **Integer (int, short, byte, long)**: 0
* **Floating-point (float, double)**: 0.0
* **Character (char)**: '\u0000' (null character)
* **Boolean**: false
* **Object References**: null

### **2. Can you pass a negative number in Array size?**

No, you cannot pass a negative number as an array size in Java. If you attempt to do so, Java will throw a NegativeArraySizeException.

### **3. Where is an Array stored in JVM memory?**

Arrays are stored in the **heap memory** in the Java Virtual Machine (JVM). When an array is created, its reference is stored on the stack memory, but the array itself is allocated in the heap.

### **4. What are the disadvantages of Arrays?**

* **Fixed Size**: Once created, the size of an array cannot be changed.
* **No Dynamic Memory Management**: Arrays do not grow or shrink in size based on content.
* **Inefficient for Insertions and Deletions**: Adding or removing elements from arrays can be inefficient because it requires shifting elements.
* **Lacks Built-in Methods**: Compared to data structures like ArrayList, arrays lack built-in methods for easy manipulation.

### **5. What is an Anonymous Array in Java? Give an example.**

An **Anonymous Array** is an array that is created without explicitly assigning it a variable name. It’s commonly used for immediate usage, like passing array values directly to a method.

**Example**:

java

public class AnonymousArrayExample {

public static void main(String[] args) {

printArray(new int[] {1, 2, 3, 4, 5}); // Anonymous array

}

public static void printArray(int[] arr) {

for (int i : arr) {

System.out.print(i + " ");

}

}

}

### **6. What are the different ways to traverse an Array in Java?**

**Using a Standard For Loop**:  
java  
for (int i = 0; i < array.length; i++) {

System.out.println(array[i]);

}

**Using Enhanced For Loop (For-Each Loop)**:  
java  
for (int value : array) {

System.out.println(value);

}

**Using Arrays.stream() Method** (Java 8+):  
java  
Arrays.stream(array).forEach(System.out::println);

**Using ArrayList with a List Iterator**:  
java  
List<Integer> list = Arrays.asList(array);

list.forEach(System.out::println);

### **7. What is the difference between length and length() method? Give examples.**

* **length**: It is a property of arrays that returns the total number of elements in the array.

**Example**:  
java  
int[] numbers = {1, 2, 3, 4};

System.out.println(numbers.length); // Output: 4

* **length()**: It is a method of the String class that returns the number of characters in a string.

**Example**:  
java  
  
String str = "Hello";

* + System.out.println(str.length()); // Output: 5