1.What is the Default Value of an Array for Different Data Types?

When an array is created in Java, its elements are automatically initialized to default values based on the data type:

- int, short, byte, long: 0

- float, double: 0.0

- char: \u0000 (null character)

- boolean: false

- Reference types (e.g., String, Object): null

2.Can You Pass a Negative Number in Array Size?

No, you cannot pass a negative number as the size of an array. If you try to do so, Java will throw a NegativeArraySizeException at runtime.

3.Where is Array Stored in JVM Memory?

In the JVM, arrays are stored in the heap memory. The heap is the area where all the dynamically allocated memory (objects and arrays) is stored.

4.What are the Disadvantages of Array?

Some disadvantages of using arrays in Java include:

1. Fixed Size: Once an array is created, its size cannot be changed.

2. Memory Consumption: Arrays may allocate more memory than needed, leading to wasted space.

3. No Built-in Methods: Unlike other data structures like ArrayList, arrays do not have built-in methods for operations like insertion, deletion, etc.

4. Inefficient Insertions/Deletions: Inserting or deleting elements in an array can be inefficient, especially if the array is large.

5.What is an Anonymous Array in Java? Give an Example.

An anonymous array in Java is an array that is created and used on the fly without being assigned to a

variable. It is typically used when you need to pass an array to a method directly.

Example:

```
public class AnonymousArrayExample {
    public static void main(String[] args) {
        printArray(new int[]{1, 2, 3, 4, 5});
    }

    public static void printArray(int[] arr) {
        for (int num : arr) {
            System.out.print(num + " ");
        }
    }
}
```

In this example, the array new int[]{1, 2, 3, 4, 5} is an anonymous array because it is created and passed directly to the printArray method without being assigned to a variable.

6.What are the Different Ways to Traverse an Array in Java?

1. **For Loop:**

   Example:

   ```
   int[] arr = {1, 2, 3, 4, 5};
   for (int i = 0; i < arr.length; i++) {
       System.out.print(arr[i] + " ");
   }
   ```

2. **Enhanced For Loop (For-Each Loop):**

Example:

```
int[] arr = {1, 2, 3, 4, 5};
for (int num : arr) {
    System.out.print(num + " ");
}
```

3. **While Loop:**

Example:

```
int[] arr = {1, 2, 3, 4, 5};
int i = 0;
while (i < arr.length) {
    System.out.print(arr[i] + " ");
    i++;
}
```

4. **Stream API (Java 8+):**

Example:

```
int[] arr = {1, 2, 3, 4, 5};
Arrays.stream(arr).forEach(num -> System.out.print(num + " "));
```

7.What is the Difference Between length and length() Method? Give Examples.

- **length:** This is a property of arrays in Java that gives the size (number of elements) of the array.

Example:

```
int[] arr = {1, 2, 3, 4, 5};
int size = arr.length; // size = 5
```

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

Example:

```
String str = "Hello";
int length = str.length(); // length = 5
```

In summary:

- `arr.length` gives the size of the array.
- `str.length()` gives the number of characters in a string.